Creel Census and Biological Investigation of Gordon Lake, Northwest Territories, 1981

M.M. Roberge and C.J. Read

Western Region
Department of Fisheries and Oceans
Winnipeg, Manitoba R3T 2N6

March 1986

Canadian Data Report of Fisheries and Aquatic Sciences No. 569

86-02818/

Canadian Data Report of Fisheries and Aquatic Sciences

Data reports provide a medium for filing and archiving data compilations where little or no analysis is included. Such compilations commonly will have been prepared in support of other journal publications or reports. The subject matter of data reports reflects the broad interests and policies of the Department of Fisheries and Oceans, namely, fisheries and aquatic sciences.

Data reports are not intended for general distribution and the contents must not be referred to in other publications without prior written authorization from the issuing establishment. The correct citation appears above the abstract of each report. Data reports are abstracted in *Aquatic Sciences and Fisheries Abstracts* and indexed in the Department's annual index to scientific and technical publications.

Numbers 1–25 in this series were issued as Fisheries and Marine Service Data Records. Numbers 26–160 were issued as Department of Fisheries and the Environment, Fisheries and Marine Service Data Reports. The current series name was introduced with the publication of report number 161.

Data reports are produced regionally but are numbered nationally. Requests for individual reports will be filled by the issuing establishment listed on the front cover and title page. Out-of-stock reports will be supplied for a fee by commercial agents.

Rapport statistique canadien des sciences halieutiques et aquatiques

Les rapports statistiques servent à classer et à archiver les compilations de données pour lesquelles il y a peu ou point d'analyse. Ces compilations auront d'ordinaire été préparées à l'appui d'autres publications ou rapports. Les sujets des rapports statistiques reflètent la vaste gamme des intérêts et des politiques du ministère des Pêches et des Océans, c'est-à-dire les sciences halieutiques et aquatiques.

Les rapports statistiques ne sont pas destinés à une vaste distribution et leur contenu ne doit pas être mentionné dans une publication sans autorisation écrite préalable de l'établissement auteur. Le titre exact paraît au-dessus du résumé de chaque rapport. Les rapports statistiques sont résumés dans la revue *Résumés des sciences aquatiques et halieutiques*, et ils sont classés dans l'index annuel des publications scientifiques et techniques du Ministère.

Les numéros 1 à 25 de cette série ont été publiés à titre de relevés statistiques, Services des pêches et de la mer. Les numéros 26 à 160 ont été publiés à titre de rapports statistiques du Service des pêches et de la mer, ministère des Pêches et de l'Environnement. Le nom actuel de la série a été établi lors de la parution du numéro 161.

Les rapports statistiques sont produits à l'échelon régional, mais numérotés à l'échelon national. Les demandes de rapports seront satisfaites par l'établissement auteur dont le nom figure sur la couverture et la page du titre. Les rapports épuisés seront fournis contre rétribution par des agents commerciaux.

Canadian Data Report of
Fisheries and Aquatic Sciences 569

March 1986

CREEL CENSUS AND BIOLOGICAL INVESTIGATION OF GORDON LAKE, NORTHWEST TERRITORIES, 1981

by

M. M. Roberge and C.J. Read

Western Region
Department of Fisheries and Oceans
Winnipeg, Manitoba R3T 2N6

This is the 80th Data Report
from the Western Region, Winnipeg

© Minister of Supply and Services Canada 1986

Cat. no. Fs 97-13/569E ISSN 0706-6465

Correct citation for this publication is:

Roberge, M.M., and C.J. Read. 1986. Creel census and biological investigation on of Gordon Lake, Northwest Territories, 1981. Can. Data Rep. Fish. Aquat. Sci. 569: v + 43 p.

TABLE OF CONTENTS

	Page
ABSTRACT/RESUME	v
INTRODUCTION	1
STUDY AREA	1
THE FISHERY	1
METHODS AND MATERIALS	
Creel census	2
Experimental gillnetting	2
Tagging	2
Biological analysis	2
Water analysis	2
Data analysis	2
RESULTS	
Catch and effort statistics	3
Creel census	3
Experimental gillnetting	3
Biological analysis - lake trout	3
Length and age composition	3
Growth and maturity	3
Mortality	3
Biological analysis - lake whitefish	4
Length and age composition	4
Growth and maturity	4
Mortality	4
Biological analysis - other species	4
Northern pike	4
Longnose sucker	4
ACKNOWLEDGMENTS	4
REFERENCES	4

LIST OF TABLES

Table		Page
1	Summary of information pertaining to lodge operation and creel census survey at Gordon Lake, 1981	6
2	Observed catch, effort and catch/effort statistics by anglers during the creel census survey at Gordon Lake, 1981	6
3	Summary of harvest statistics for Gordon Lake, 1981	6
4	Catch and catch per unit effort (CPE) data for fish caught by experimental gillnets from Gordon Lake, 1981	7
	Biological data for lake trout caught by angling from Gordon Lake, 1981:	
5	by length interval	8
6	by age group	8
	Biological data for lake trout caught by experimental gillnets from Gordon Lake, 1981:	
7	by length interval	9
8	by age group	10
	Biological data for lake whitefish caught by experimental gillnets from Gordon Lake, 1981:	
9	by length interval	11
10	by age group	12
	Biological data for northern pike caught by experimental gillnets from Gordon Lake, 1981:	
11	by length interval	12
12	by age group	13
13	Biological data by length interval for longnose sucker caught by experimental gillnets from Gordon Lake, 1981	13

LIST OF FIGURES

Figure		Page
1	Map of the Northwest Territories depicting the location of Gordon Lake	14
2	Map of Gordon Lake showing the locations of Katimavik Lodge, mining sites and cabins	15
3	Map of Gordon Lake depicting the areas utilized for sport fishing in 1981	16
4	Map of Gordon Lake showing the experimental gillnet locations and tagging sites in 1981	17
5	Length-frequency histograms for lake trout from Gordon Lake caught by experimental gillnets in 1980 and 1981 and from the angler's creel in 1981	18
6	Age-frequency histograms for lake trout caught by angling and by experimental gillnets from Gordon Lake, 1981	19
7	Length-frequency histograms for lake trout caught by experimental gillnets, by mesh size, from Gordon Lake, 1981	20
8	Age-frequency histograms for lake trout caught by experimental gillnets, by mesh size, from Gordon Lake, 1981	21

9 Length-at-age relationship for lake trout from Gordon Lake, 1981 compared with other northern lakes . . 22

10 Catch curves for lake trout and lake whitefish caught by experimental gillnets from Gordon Lake, 1981 . . 23

11 Length-frequency histograms for lake whitefish from Gordon Lake, 1980 and 1981 24

12 Age-frequency histograms for lake whitefish from Gordon Lake, 1980 and 1981 25

13 Length-frequency histograms for lake whitefish caught by experimental gillnets, by mesh size, from Gordon Lake, 1981 26

14 Age-frequency histograms for lake whitefish caught by experimental gillnets, by mesh size, from Gordon Lake, 1981 27

15 Length-at-age relationships for lake whitefish from Gordon Lake, 1981 compared with other northern lakes . 28

LIST OF APPENDICES

Appendix Page

1 Summary of information on sampling dates, sampling locations, set duration and catch per unit effort for the experimental gillnet sets on Gordon Lake, 1981 29

2 A description of the codes used to determine the relative stages of maturity for northern fishes . . . 30

Biological data by length interval for lake trout caught by experimental gillnets from Gordon Lake, 1981:

3 38 mm mesh 31
4 64 mm mesh 31
5 89 mm mesh 32
6 114 mm mesh 32
7 139 mm mesh 33

Biological data by age group for lake trout caught by experimental gillnets from Gordon Lake, 1981:

8 38 mm mesh 33
9 64 mm mesh 34
10 89 mm mesh 34
11 114 mm mesh 35
12 139 mm mesh 35

Biological data by length interval for lake whitefish caught by experimental gillnets from Gordon Lake, 1981: . . .

13 38 mm mesh 36
14 64 mm mesh 37
15 89 mm mesh 38
16 114 mm mesh 39
17 139 mm mesh 40

Biological data by age group for lake whitefish caught by experimental gillnets from Gordon Lake, 1981:

18 38 mm mesh 40
19 64 mm mesh 41
20 89 mm mesh 41
21 114 mm mesh 42
22 139 mm mesh 42

23 Chemical analysis of surface water samples taken from Gordon Lake, 1981 43

ABSTRACT

Roberge, M.M., and C.J. Read. 1986. Creel census and biological investigation of Gordon Lake, Northwest Territories, 1981. Can. Data Rep. Fish. Aquat. Sci. 569: v + 43 p.

A creel census, experimental gillnetting and biological sampling program was conducted on Gordon Lake in 1981. A tagging program was also carried out. Sport fishing harvest and biological data are presented. Harvest data includes an estimation of total angler harvest, number of fish caught per angler-hour and per angler-day and harvest per angler and per hectare. Biological data includes length, weight, age and maturity characteristics of the fish species caught.

Key words: angling; catch/effort; catch composition; gillnets; trout, lake; whitefish, lake; population structure; sport fishing; tagging.

RÉSUMÉ

Roberge, M.M., and C.J. Read. 1986. Creel census and biological investigation of Gordon Lake, Northwest Territories, 1981. Can. Data Rep. Fish. Aquat. Sci. 569: v + 43 p.

En 1981, on a fait un recensement du pêche sportive, on a fait une pêche expérimentale au filet maillant et on a appliqué un programme d'échantillonnage biologique dans le lac Gordon; un programme d'étiquetage a aussi été mené. Des données sur les captures par les pêcheurs sportifs et des données biologiques sont présentées. Parmi les données sur les captures, il y a l'estimation du total des captures par les pêcheurs à la ligne, du nombre de poissons capturés par pêcheur par heure et par pêcheur par jour, ainsi que des captures par pêcheur et par hectare. Les données biologiques comprennent la détermination de la longueur, du poids et de l'âge ainsi que les caractéristiques de maturité des poissons des espèces capturées.

Mots-clés: Composition des prises; grand corégone; étiquetage; filets maillants; pêche à la ligne; pêche sportive; prises/effort; structure de la population; touladi.

INTRODUCTION

There are numerous lakes within the District of Mackenzie, Northwest Territories for which there is very little if any biological data and/or harvest data necessary for recommending fishing potential and harvest levels. Some of these lakes have been commercially fished in the past on an annual or cycle quota. However at present the low price of fish and high transportation costs make many of these potential fisheries economically unfeasible. There has been however, over the past decade, considerable interests in establishing sport fishing lodges on some of these lakes as well as an increase in itinerant sport fishing with the establishment of mining and oil and gas operations.

In 1980, the Department of Fisheries and Oceans (DFO) began a multi-year program to evaluate the commercial and sport fishing potential of lakes within the District of Mackenzie. The lakes of prime interest were those with existing or possible commercial/sport fishery use conflicts and lakes with existing or proposed mining operations. The objectives of the program were to collect necessary baseline data to assess the population structure and dynamics of the fish species inhabiting these inland lakes, to monitor the effects of exploitation by commercial and/or sport fishing, if any, and to assess the ability of the fish species to sustain exploitation.

In 1981, as part of the assessment program on inland lakes, a study was undertaken on Gordon Lake to assess the effects of exploitation by the lodge-based sport fishery and the past/future commercial fishery in order to develop a rationale for future allocation of harvest levels to sport and/or commercial fisheries. This report presents the findings of this study.

STUDY AREA

Gordon Lake (63°03'N, 113°12'W) is situated south of the treeline approximately 95 km northeast of Yellowknife, Northwest Territories (Fig. 1). The lake has a maximum length of 43 km, a maximum width of 6.5 km, a maximum depth of >85 m and a total surface area of 14 300 ha (excluding islands) (Moore 1981; Inven. Can. Freshwater Lakes 1969). There are ten islands located about the lake ranging in areas from approximately 65 ha to 389 ha as well as numerous smaller sized islands.

Studies have been conducted on the algal (Moore 1979, 1981), phytoplankton (Moore 1978a), zooplankton (Moore 1978b) and benthic invertebrate (Moore 1978c) communities inhabiting Gordon Lake. Information on the chemical condition of the water is provided by Moore (1978b, c, 1979, 1981) and D. Sutherland (Department of the Environment, Yellowknife, NWT, unpublished data).

There is one mine (Camlaren Mine) and two exploration sites (Cadillac and Burnt Island) located at Gordon Lake (Can. Dep. Energy, Mines and Resources 1970, 1980) (Fig. 2). The Camlaren Mine, located on an island in the southeast section of the lake, was operated from 1937 to 1938 and again in 1962/63 with some development work conducted in 1974. The mine was again worked in 1980/81 but only minimally. The Cadillac exploration site, located on the east shore, was licensed in February, 1980, but closed as of October, 1981, without ever being worked. The second exploration site is centrally located on Burnt Island. There was some exploration work carried out in 1939 and during the 1940's but little else has been done since that time.

There are also five cabins located about the lake with the three cabins at the north end of the lake belonging to Dene residents from Detah. The cabin located at West Bay is privately owned while the cabin located at the south end of the lake is used by the Wildlife Service, Department of Renewable Resources, Government of the Northwest Territories during patrols.

THE FISHERY

Historically Gordon Lake has been exploited by domestic, commercial and sport fisheries. The domestic fishery records are negligible. It has been estimated that in the past domestic requirements approximated between 1 300 to 2 700 kg (R.W. Moshenko, DFO, Western Region, personal communication).

The earliest record of the lake being commercially fished was in 1963 when 27 071 kg of lake trout and 35 889 kg of lake whitefish were harvested (G. Yaremchuk, DFO, Western Region, unpublished data). Subsequently in 1964, 8 846 kg of lake trout and 11 902 kg of lake whitefish were removed. The lake remained unfished until 1969 when 21 209 kg of lake trout and 42 036 kg of lake whitefish were harvested from a combined trout/whitefish quota of 65 000 kg. In 1970, with this same quota in effect, 22 209 kg of trout and 47 465 kg of whitefish were harvested. Commercial exploitation has not been recorded since that time despite the fact that the lake was opened to allow commercial fishing in 1974 with a 37 800 kg six-year cycle quota (trout and whitefish) and again in 1979 with a 6 300 kg (1 800 kg trout and 4 500 kg whitefish) annual quota.

Gordon Lake was first licensed for a sport fishing lodge in 1977 which was in operation by 1978. Katimavik Lodge located on the eastern shore, was initially allotted a 12 guest-bed capacity which has remained unchanged to date. The lodge operated for four months during the summer; however for the past few years it has operated on a semi-closed basis. Sport fishing for lake trout is spread over the entire lake (Fig. 3).

METHODS AND MATERIALS

CREEL CENSUS

In 1981, a partial creel census was conducted at Katimavik Lodge from 25 June to 14 July. Creel census procedure and forms used were adapted from those described by Falk et al. (1973, 1974). Anglers or guests were questioned usually at the end of the day or the next morning as to the number of fish caught, released, retained and eaten for shore lunch by species, as well as the number of hours spent fishing and the location fished. Whenever possible, the anglers' catch was sampled for later biological analysis.

EXPERIMENTAL GILLNETTING

Experimental gillnetting was carried out using standard gangs composed of 50 m lengths each of 38, 64, 89, 114 and 139 mm mesh (stretched measure) nylon gillnets. Set locations are depicted in Fig. 4. The average set duration was 24 h with the exception of one set which remained unchecked for 64 h due to bad weather (Appendix 1). Catches were recorded by site number, mesh size and species. Large, active and unharmed lake trout caught in the nets were measured for fork length (±1 mm), tagged and released. All other fish caught were sampled for biological analysis.

Scientific names of all fish species caught followed Scott and Crossman (1973): lake trout, Salvelinus namaycush (Walbaum); lake whitefish, Coregonus clupeaformis (Mitchill); northern pike, Esox lucius (Linnaeus); and longnose sucker, Catostomus catostomus (Forster).

TAGGING

Lake trout were captured for tagging by the use of small mesh gillnets. Two 47.5 m lengths of 64 mm mesh (stretched measure) and a 45.7 m length of 38 mm mesh (stretched measure) gillnets were set in shallow waters and checked every 24 h. It was determined that this procedure did not result in excessive mortalities to lake trout. Lake trout were removed from the nets and placed in a restraining trough, measured for fork length (±1 mm) and tagged. Fish were tagged with white floy (spagetti) tags stamped with a reference number and return address using a Denison tagging gun (Model FDM-68). Tags were inserted on the left side just under the dorsal fin and anchored between the pterygiophores. After tagging, fish were held in the water to recuperate and observed for a short time after release. Only trout considered to be in good condition were tagged. All other lake trout and fish species caught were sampled for biological analysis.

BIOLOGICAL ANALYSIS

Fish from the anglers' creel and from gillnets were sampled for fork length (±1 mm), round weight (±50 g), aging structures (scales/otoliths/fins), sex and stage of maturity. Sex and relative stage of maturity were determined by examination of the gonads. Relative stages of maturity were coded according to the stages described in Appendix 2.

Sagittal otoliths were taken from lake trout and stored dry in coin envelopes for later age determination. In the laboratory, the convex surface of the otolith was selectively ground on a carborundum stone and cleared/cleansed in a 3:1 solution of benzyl benzoate and methyl salicylate. It was then examined under a binocular dissecting scope (x30) using reflected light against a black background. Ages were determined by counting the annual growth rings. Scales were taken from lake whitefish and northern pike as described by Hatfield et al. (1972). Scales were mounted between two glass slides and aged by interpreting the annual growth rings on the image produced by an Eberbach microprojector (x40). Longnose suckers were not aged. Ages determined using fins are not included in this report.

WATER ANALYSIS

Two water samples were taken for chemical analysis according to the procedure outlined by Stainton et al. (1977). One sample was taken 24 June approximately 0.5 km west of Katimavik Lodge and the other from the same location on 15 July. The samples were analyzed by the Analytical Unit, DFO, Winnipeg, Manitoba. The results are given in Appendix 23.

DATA ANALYSIS

Data were analyzed using an Amdahl 5850 computer. The Statistical Analysis System (1982) was used to generate length, weight, age, sex and maturity summaries as well as to perform basic calculations and statistical analysis.

Weight-length relationships were calculated using least squares regression analysis on logarithmic transformations of fork length and round weights. The relationship is described by the following equation:

$$\text{Log}_{10}\, W = a + b\,(\text{Log}_{10}\, L)$$

where W = weight in grams
L = fork length in millimeters.

Relative condition factor (K), a measure of the plumpness of a fish, was determined using the formula:

$$K = \frac{W \times 10^5}{L^3}$$

where W = weight in grams
L = fork length in millimeters

Instantaneous total mortality (Z) was calculated from the least squares regression line fitted to the descending limb of catch curves. Catch curves were fitted by eye and only that portion of the curve that appeared linear was included in the analysis. Moderate fluctuations

in recruitment in different year classes tend to create an irregular shaped catch curve (Ricker 1975). To reduce these irregularities from unstable recruitment smooth catch curves were obtained using a running average of three years. Ricker (1975) indicated that the modal age in the catch curve will commonly lie close to the first year in which recruitment can be considered effectively complete. Therefore only the next older and subsequent age groups from the modal age were used.

RESULTS

CATCH AND EFFORT STATISTICS

Creel census

In 1981, Katimavik Lodge operated from 11 June to 21 July and reopened from 7 August to 24 August accommodating an estimated total of 137 guests (Table 1). A total of 146 angler-interviews were conducted during a 25-day creel census survey from 22 June to 16 July.

The catch of fish from Gordon Lake during the creel census study was 383 lake trout (643 kg) and 10 northern pike with an effort of 685 hours (Table 2). Total fish caught per angler was 6.6 lake trout (11.1 kg) and 0.2 northern pike. Catch per unit of effort (CPE) for lake trout was 2.6 fish per angler-day and 0.6 fish per angler-hour while CPE for northern pike was 0.1 fish per angler-day and <0.1 fish per angler-hour.

Total harvest of lake trout from Gordon Lake in 1981 was estimated to be 520 fish (874 kg) and only 2 northern pike (Table 3). Harvest per hectare fished was 0.20 (0.34 kg) lake trout while yield for the entire lake was 0.04 fish (0.06 kg). The harvest per angler was 3.80 trout (6.37 kg). The harvest of northern pike was very low at <0.01 per hectare fished and hectare available. The harvest per angler was only 0.01.

It is apparent that lake trout is the main sport fish species sought. Historical records, however, indicate that the total harvest of lake trout was significantly greater during the 1970's when the total annual harvest may have been >2 500 kg.

Experimental gillnetting

Nine experimental gillnet sets were made in Gordon Lake from 28 June to 12 July, 1981 (Fig. 4). Three net sets were made at each of the southern and northern sections of the lake and towards the centre of the lake in the area located near Katimavik Lodge. A total of 665 fish were caught. The catch (in percent numbers) consisted of 80% lake whitefish, 19% lake trout and <1% each for northern pike and longnose sucker (Table 4).

Overall catch per unit effort (CPE) was 25.0 fish/100 m gillnet/24 h (Table 4) ranging from 9.6 to 35.7 (Appendix 1). CPE for lake trout was 4.7 fish/100 m gillnet/24 h. CPE for lake whitefish was 20.0 fish/100 m gillnet/24 h.

BIOLOGICAL ANALYSIS - LAKE TROUT

Length and age composition

Angled (retained only) lake trout ranged in fork length from 430 mm to 826 mm (mean = 525 mm) (Table 5). The modal size group was 500-524 mm (Fig. 5). Mean age of angled lake trout was 15.9 yr (range = 9-34 yr) (Table 6) while the modal age was 13 yr (Fig. 6).

Mean length of lake trout caught by the experimental gillnets was 534 mm (range = 330-1005 mm) (Table 7) while the modal length was 500-524 mm (Fig. 5). Mean age of lake trout was 15.1 yr (range = 6-38 yr) (Table 8) while the modal age was 12 yr (Fig. 6). Both the size and age of lake trout seem to have little relationship to the size of the mesh used. Mean lengths (Fig. 7) and ages (Fig. 8) are similar for the 38, 64 and 89 mm mesh but the modes vary. The small sample size (n=4) for the 139 mm mesh precludes making any comparisons.

The length-frequency distribution for gillnetted lake trout from Gordon Lake in 1981 is compared to 1980 (D. Sutherland, Department of the Environment, Yellowknife, NWT, unpublished data) (Fig. 5). There is a noticeable difference in length frequency distributions between years with the marked absence of trout >700 mm in 1980. This is probably the result of the small sample size in 1980 (n=20) and not to size-selective sport fishing since only 2% of the sport fishery harvest consisted of trout >700 mm (Table 5).

Growth and maturity

The weight-length relationship for lake trout (sexes combined) from Gordon Lake, 1981 was determined to be:

$$\text{Log}_{10}W = -4.514 + 2.838\ \text{Log}_{10}L$$

Growth for Gordon Lake trout is compared with that of lake trout from other lakes in the area (Fig. 9). The mean condition factor (K) was 1.11 for males and 1.13 for females (Table 5).

All males were mature by the 375-399 mm length interval and all females by the 400-424 mm length interval (Table 7) while both males and females were completely mature by age 9 yr (Table 8).

Mortality

Catch curve analysis indicated a good fit to the regression line fitted to that portion of the descending limb of the curve considered, by visual observation, to be linear (Fig. 10). Instantaneous total mortality (Z), calculated from the slope of the straight line fitted to the data, was estimated to be 0.21. Annual survival rate (S) was high at 0.81.

BIOLOGICAL ANALYSIS - LAKE WHITEFISH

Length and age composition

Mean length of lake whitefish caught by the experimental gillnets was 456 mm (range = 84-598 mm) (Table 9) and the modal length was 500-524 mm (Fig. 11). Mean age of lake whitefish was 9.3 yr (range = 2-18 yr) (Table 10) while the modal age was 11 yr (Fig. 12). The mean length (Fig. 13) and mean age (Fig. 14) increased with an increase in mesh size however the modal size and age remain remarkably constant. There is a second mode to the left which only shows up in the smaller mesh sizes.

The length and age-frequency distribution for gillnetted lake whitefish from Gordon Lake in 1981 is compared to that found for lake whitefish in 1980 (D. Sutherland, Department of the Environment, Yellowknife, NWT, unpublished data). There is a marked absence of fish <400 mm (Fig. 11) and age 6 yr (Fig. 12) in 1980 which may be due to the small sample size taken in 1980.

Growth and maturity

The weight-length relationship for lake whitefish (sexes combined) from Gordon Lake in 1981 was determined to be:

$$\text{Log}_{10}W = -5.367 + 3.182\ \text{Log}_{10}L$$

The growth for Gordon Lake lake whitefish is compared to that of lake whitefish from other lakes in the area (Fig. 15). The mean condition factor (K) was 1.34 for males and 1.36 for females (Table 9).

Males were found to be mature by the 440 mm length range and females by the 450 mm length range (Table 9). Males and females were completely mature by age 9 yr and 10 yr, respectively (Table 10).

Mortality

Catch curve analysis indicated a good fit to the regression line fitted to that portion of the descending limb of the curve considered, by visual observation, to be linear (Fig. 10). Instantaneous total mortality (Z), calculated from the slope of the straight line fitted to the data, was estimated to be 0.79. Annual survival rate (S) was 0.45.

BIOLOGICAL ANALYSIS - OTHER SPECIES

Northern pike

Mean length of northern pike was 629 mm (range = 340-830 mm) (Table 11) and mean age was 7.7 yr (range = 6-10 yr) (Table 12). The condition factor was 0.75 for males and 0.64 for females. The weight-length relationship was determined to be:

$$\text{Log}_{10}W = -3.701 + 2.484\ \text{Log}_{10}L$$

Longnose sucker

Mean length of longnose sucker was 312 mm (range = 174-487 mm) (Table 13). The weight-length relationship was determined to be:

$$\text{Log}_{10}W = -5.693 + 3.331\ \text{Log}_{10}L$$

ACKNOWLEDGMENTS

The authors wish to thank O. Stabler and R. Reichart, owner and manager, respectively, of Katimavik Lodge for their cooperation and assistance during the survey. Assistance in the field was provided by R. Case. Otoliths were aged by L. Dahlke. R. Moshenko initiated the program. Figures were prepared by Graphic Services, Freshwater Institute and B. Dunn. C. Catt typed the final report.

REFERENCES

CANADA DEPARTMENT OF ENERGY, MINES AND RESOURCES. 1970. Mineral Resources Branch Report. Northwest Territories, Ref. no. Au 9, Ottawa.

CANADA DEPARTMENT OF ENERGY, MINES AND RESOURCES. 1980. Mineral Development Sector Report. Northwest Territories, Ref. no. Au 9, Ottawa.

FALK, M.R., D.V. GILLMAN, and L.W. DAHLKE. 1973. The sport fisheries on Great Bear and Great Slave lakes, Northwest Territories. Can. Fish. Mar. Serv. Tech. Rep. Ser. CEN/T-73-8: 100 p.

FALK, M.R., D.V. GILLMAN, and L.W. DAHLKE. 1974. 1973 creel census data from sport fishing lodges on Great Bear and Great Slave lakes, Northwest Territories. Can. Fish. Mar. Serv. Data Rep. Ser. CEN/D-74-5: 28 p.

FALK, M.R., L. DAHLKE, and M.M. ROBERGE. 1982. Creel census and biological investigation, with particular reference to lake trout, Salvelinus namaycush, on Kasba Lake, Northwest Territories, 1979. Can. Manuscr. Rep. Fish. Aquat. Sci. 1642: v + 45 p.

GILLMAN, D.V. and M.M. ROBERGE. 1982. Creel census and biological data from the lake trout sport fishery on Great Bear Lakes, Northwest Territories, 1980. Can. Data Rep. Fish. Aquat. Sci. 338: v + 24 p.

HATFIELD, C.T., J.N. STEIN, M.R. FALK, and C.S. JESSOP. 1972. Fish resources of the Mackenzie River Valley. Interim Report I. Vol. I. Canada, Department of the Environment, Fisheries Service, Winnipeg, MB. 247 p.

INVENTORY OF CANADIAN FRESHWATER LAKES. 1969. Compiled by Inland Waters Branch, Department of Energy, Mines and Resources, Ottawa.

MOORE, J.W. 1978a. Distribution and abundance of phytoplankton in 153 lakes, rivers, and pools in the Northwest Territories. Can. J. Bot. 56: 1765-1773.

MOORE, J.W. 1978b. Composition and structure of zooplankton communities in eighteen arctic and subarctic lakes. Int. Rev. gesamten Hydrobiol. 63: 545-565.

MOORE, J.W. 1978c. Some factors influencing the diversity and species composition of benthic invertebrate communities in twenty arctic and subarctic lakes. Int. Rev. gesamten Hydrobiol. 63: 757-771.

MOORE, J.W. 1979. Distribution and abundance of attached, littoral algae in 21 lakes and streams in the Northwest Territories. Can. J. Bot. 57: 568-577.

MOORE, J.W. 1981. Benthic algae in littoral and profundal areas of a deep subarctic lake. Can. J. Bot. 59: 1026-1033.

RICKER, W.E. 1975. Computations and interpretations of biological statistics of fish populations. Fish. Res. Board Can. Bull. 119: 382 p.

ROBERGE, M.M., G. LOW, and C.J. READ. 1985. Data from an experimental gillnetting program on Great Slave Lake, Northwest Territories, 1980-81. Can. Data Rep. Fish. Aquat. Sci. 537: vii + 156 p.

STATISTICAL ANALYSIS SYSTEM (SAS) INSTITUTE INC. 1982. SAS user's guide: Basics, 1982 edition. Cary, NC. 923 p.

STAINTON, M.P., M.J. CAPEL, and F.A.J. ARMSTRONG. 1977. The chemical analysis of fresh water. Can. Fish. Mar. Serv. Misc. Spec. Publ. 25, 2nd ed: 125 p.

Table 1. Summary of information pertaining to lodge operation and creel census survey at Gordon Lake, 1981.

Lodge Operation					Creel Census					
Period	Duration (days)	No. of Guests: Calculated	No. of Guests: License Sales	Angler-days[1]	Period	Duration (days): Total	Duration (days): Censused	No. Anglers	Angler-days	Angler-hours
11 June - 21 July	41	95	N/A	239	22 June - 16 July	25	25	58	146	685.0
7 Aug. - 24 Aug.	18[1]	42	N/A	105						
11 June - 24 Aug.	59[1]	137	N/A	344						

[1]Estimated.
N/A - not available.

Table 2. Observed catch, effort and catch/effort statistics by anglers during the creel census survey at Gordon Lake, 1981.

Species	Catch: No.	Catch: Wt(kg)	Angler effort: days	Angler effort: hours	Fish per angler: No.	Fish per angler: Wt(kg)	Fish per angler-day: No.	Fish per angler-day: Wt(kg)	Fish per angler-hour: No.	Fish per angler-hour: Wt(Kg)
lake trout	383	643[1]	146	685	6.6	11.1	2.6	4.4	0.6	0.9
northern pike	10	-	146	685	0.2	-	0.1	-	<0.1	-

[1]Average weight = 1.68 kg.

Table 3. Summary of harvest statistics for Gordon Lake, 1981.

Species	Census Harvest[1]: No.	Census Harvest[1]: Wt(kg)	Total Harvest[2]: No.	Total Harvest[2]: Wt(kg)	Harvest per Hectare fished: No.	Harvest per Hectare fished: Wt(kg)	Harvest per Hectare available: No.	Harvest per Hectare available: Wt(kg)	Harvest per Angler: No.	Harvest per Angler: Wt(kg)
lake trout[3]	206	346	520	874	0.20	0.34	0.04	0.06	3.80	6.37
northern pike	1	-	2	-	<0.01	-	<0.01	-	0.01	-

[1]Includes fish retained and shore lunches.
[2]Includes fish retained, shore lunches and release mortality (7%).
[3]Mean weight = 1.68 kg.

Table 4. Catch and catch per unit effort (CPE) data for fish caught by experimental gillnets from Gordon Lake, 1981.

		Mesh Size (mm)					Total Catch	CPE[1]
		38	64	114	24	139		
Lake trout	No.	20	32	37	33	4	126	4.7
	%	15.9	25.4	29.4	26.2	3.2	18.8	
Lake whitefish	No.	126	135	150	92	29	532	20.0
	%	23.7	25.4	28.2	17.3	5.5	80.0	
Northern pike	No.	1	1	-	-	-	2	0.1
	%	50.0	50.0	-	-	-	0.3	
Longnose sucker	No.	1	1	3	1	-	6	0.2
	%	16.7	16.7	50.0	16.7	-	0.9	
Total	No.	148	169	190	126	33	666	25.0
	%	22.2	25.4	28.5	18.9	5.0		

[1]No. fish/100 m gillnet/24 h.

Table 5. Biological data by length interval for lake trout caught by angling from Gordon Lake, 1981.

LENGTH INTERVAL (MM)	MALES						FEMALES						COMBINED					
		LENGTH(MM)	WEIGHT(G)			%		LENGTH(MM)	WEIGHT(G)			%		LENGTH(MM)	WEIGHT(G)			%
	N	MEAN	MEAN	SD	K	MAT	N	MEAN	MEAN	SD	K	MAT	N	MEAN	MEAN	SD	K	MAT
425	-	-	-	-	-	-	3	434	1800	1004	2.24	100	3	434	1800	1004	2.24	100
450	6	468	1158	86	1.13	100	4	461	1075	50	1.10	75	10	465	1125	82	1.12	90
475	5	485	1320	303	1.16	100	8	483	1300	215	1.16	100	15	485	1313	224	1.15	100
500	16	511	1486	243	1.11	94	7	515	1550	104	1.13	100	26	512	1509	200	1.12	96
525	7	536	1707	188	1.11	100	10	538	1680	157	1.08	100	19	537	1697	157	1.10	100
550	3	552	1917	176	1.14	100	6	557	1767	328	1.02	100	14	556	1832	228	1.07	100
575	1	595	2400	-	1.14	100	-	-	-	-	-	-	5	588	2060	393	1.01	100
600	-	-	-	-	-	-	1	618	2750	-	1.17	100	3	617	2317	404	0.98	100
750	1	772	6000	-	1.30	100	-	-	-	-	-	-	1	772	6000	-	1.30	100
825	-	-	-	-	-	-	-	-	-	-	-	-	1	826	6250	-	1.11	-
TOTAL	39						39						97					
MEAN		518	1626	789	1.13			512	1567	418	1.19			525	1680	747	1.14	

Table 6. Biological data by age group for lake trout caught by angling from Gordon Lake, 1981.

AGE (YR)	MALES							FEMALES							COMBINED						
		LENGTH(MM)		WEIGHT(G)			%		LENGTH(MM)		WEIGHT(G)			%		LENGTH(MM)		WEIGHT(G)			%
	N	MEAN	SD	MEAN	SD	K	MAT	N	MEAN	SD	MEAN	SD	K	MAT	N	MEAN	SD	MEAN	SD	K	MAT
9	-	-	-	-	-	-	-	1	481	-	1250	-	1.12	100	1	481	-	1250	-	1.12	100
10	4	480	13.2	1213	48	1.10	100	3	479	26.5	1233	176	1.12	67	7	480	17.9	1221	107	1.11	86
11	1	484	-	1150	-	1.01	100	3	465	22.2	1083	208	1.07	100	4	470	20.5	1100	173	1.06	100
12	5	496	32.6	1460	331	1.19	100	4	478	37.9	1563	287	1.49	100	9	488	34.1	1506	297	1.32	100
13	3	522	12.6	1793	129	1.26	100	6	514	41.2	1367	258	1.01	100	10	516	31.5	1518	286	1.11	100
14	6	530	37.8	1667	481	1.10	100	2	466	50.2	2125	1025	2.35	100	9	512	45.0	1728	584	1.37	100
15	2	506	19.8	1425	389	1.09	100	2	548	11.3	1725	177	1.05	100	5	546	48.4	1710	399	1.04	100
16	4	506	26.0	1538	315	1.17	100	-	-	-	-	-	-	-	4	506	26.0	1538	315	1.17	100
17	2	659	161	3825	3076	1.16	100	3	535	18.0	1600	100	1.05	100	5	584	106	2490	1964	1.09	100
18	1	515	-	1300	-	0.95	100	2	534	12.0	1800	141	1.18	100	4	541	30.0	1600	258	1.02	100
19	2	525	0.7	1750	141	1.21	100	-	-	-	-	-	-	-	2	525	0.7	1750	141	1.21	100
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	583	42.4	1925	35	0.99	-
21	-	-	-	-	-	-	-	4	566	40.2	2138	459	1.17	100	5	560	37.0	2060	434	1.16	100
22	1	550	-	1750	-	1.05	100	-	-	-	-	-	-	-	2	554	4.9	1775	35	1.05	100
23	-	-	-	-	-	-	-	1	542	-	1800	-	1.13	100	3	562	24.1	1983	236	1.11	100
24	1	538	-	1850	-	1.19	100	1	526	-	1500	-	1.03	100	2	532	8.5	1675	247	1.11	100
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	561	-	1950	-	1.10	-
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	580	-	1800	-	0.92	-
30	1	523	-	1550	-	1.08	100	-	-	-	-	-	-	-	1	523	-	1550	-	1.08	100
34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	594	-	2350	-	1.12	-
TOTAL	33							32							78						
MEAN		520	54	1675	841	1.14			511	44.4	1581	440	1.21			524	50.8	1669	629	1.15	
MEAN AGE	14.8							14.8							15.9						

Table 7. Biological data by length interval for lake trout caught by experimental gillnets from Gordon Lake, 1981.

LENGTH	MALES						FEMALES						COMBINED					
INTERVAL		LENGTH(MM)	WEIGHT(G)			%		LENGTH(MM)	WEIGHT(G)			%		LENGTH(MM)	WEIGHT(G)			%
(MM)	N	MEAN	MEAN	SD	K	MAT	N	MEAN	MEAN	SD	K	MAT	N	MEAN	MEAN	SD	K	MAT
125	-	-	-	-	-	-	-	-	-	-	-	-	1	130	25	-	1.14	0
325	-	-	-	-	-	-	-	-	-	-	-	-	1	330	350	-	0.97	0
375	1	382	550	-	0.99	0	-	-	-	-	-	-	1	382	550	-	0.99	0
400	1	418	1150	-	1.57	100	2	417	800	71	1.10	100	3	417	917	208	1.26	100
425	3	437	917	29	1.10	100	5	437	940	175	1.13	20	8	437	931	133	1.12	50
450	10	462	1120	98	1.13	100	7	464	1079	99	1.08	71	20	462	1110	95	1.12	75
475	18	486	1303	90	1.13	100	13	486	1392	158	1.21	100	32	486	1341	127	1.17	97
500	25	511	1518	144	1.14	100	13	510	1508	102	1.13	100	42	510	1506	130	1.13	90
525	18	539	1689	138	1.08	100	11	540	1705	101	1.09	100	30	539	1695	121	1.08	97
550	7	565	1929	198	1.07	100	8	561	1838	215	1.04	100	16	563	1884	199	1.05	94
575	3	583	1983	333	1.00	100	3	582	2067	388	1.04	100	6	583	2025	327	1.02	100
600	2	614	2500	0	1.08	100	2	611	2200	283	0.96	100	4	612	2350	238	1.02	100
625	4	639	2488	941	0.95	100	1	642	2950	-	1.11	100	5	640	2580	841	0.98	100
700	-	-	-	-	-	-	1	700	3700	-	1.08	100	1	700	3700	-	1.08	100
725	2	733	3875	1520	0.99	100	1	740	5000	-	1.23	100	3	735	4250	1256	1.07	100
750	1	758	5150	-	1.18	100	1	755	5500	-	1.28	100	2	757	5325	247	1.23	100
775	1	790	5950	-	1.21	100	-	-	-	-	-	-	1	790	5950	-	1.21	100
850	1	865	6400	-	0.99	100	-	-	-	-	-	-	1	865	6400	-	0.99	100
1000	-	-	-	-	-	-	1	1005	12750	-	1.26	100	1	1005	12750	-	1.26	100
TOTAL	97						69						178	[a]				
MEAN		529	1723	929	1.11			528	1819	1550	1.12			524	1725	1196	1.11	

[a] Includes fish tagged and released.

Table 8. Biological data by age group for lake trout caught by experimental gillnets from Gordon Lake, 1981.

AGE (YR)	MALES N	MALES LENGTH(MM) MEAN	MALES LENGTH(MM) SD	MALES WEIGHT(G) MEAN	MALES WEIGHT(G) SD	MALES K	MALES % MAT	FEMALES N	FEMALES LENGTH(MM) MEAN	FEMALES LENGTH(MM) SD	FEMALES WEIGHT(G) MEAN	FEMALES WEIGHT(G) SD	FEMALES K	FEMALES % MAT	COMBINED N	COMBINED LENGTH(MM) MEAN	COMBINED LENGTH(MM) SD	COMBINED WEIGHT(G) MEAN	COMBINED WEIGHT(G) SD	COMBINED K	COMBINED % MAT
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	330	-	350	-	0.97	0
8	1	382	-	550	-	0.99	0	-	-	-	-	-	-	-	1	382	-	550	-	0.99	0
9	4	478	30.1	1238	229	1.13	100	1	410	-	750	-	1.09	100	5	464	40.0	1140	295	1.12	100
10	3	468	10.8	1183	126	1.16	100	3	489	14.2	1550	250	1.33	100	6	478	16.1	1367	268	1.24	100
11	6	482	35.2	1333	169	1.20	100	7	481	18.1	1236	138	1.11	100	13	481	26.1	1281	155	1.15	100
12	8	500	28.7	1438	253	1.14	100	9	510	29.8	1494	208	1.12	100	17	505	28.9	1468	225	1.13	100
13	11	521	43.5	1641	388	1.15	100	3	560	54.1	1867	486	1.05	100	14	529	46.7	1689	402	1.13	100
14	4	526	41.5	1538	287	1.05	100	4	515	63.6	1625	330	1.21	100	8	521	50.1	1581	290	1.13	100
15	5	532	32.4	1590	178	1.06	100	4	534	37.1	1675	312	1.10	100	9	533	32.3	1628	233	1.08	100
16	4	569	107	2338	1749	1.12	100	2	520	36.1	1550	212	1.11	100	6	553	88.3	2075	1417	1.12	100
17	4	540	65.3	1713	699	1.05	100	1	545	-	1750	-	1.08	100	5	541	56.6	1720	606	1.05	100
18	1	539	-	1850	-	1.18	100	1	478	-	1300	-	1.19	100	2	509	43.1	1575	389	1.19	100
19	4	528	25.0	1588	338	1.07	100	3	598	126	2833	1887	1.21	100	7	558	83.9	2121	1299	1.13	100
20	1	564	-	2000	-	1.11	100	2	586	22.6	1950	71	0.97	100	3	579	20.4	1967	58	1.02	100
21	1	505	-	1300	-	1.01	100	-	-	-	-	-	-	-	1	505	-	1300	-	1.01	100
22	4	565	37.5	1850	453	1.02	100	-	-	-	-	-	-	-	4	565	37.5	1850	453	1.02	100
23	2	584	89.8	2575	1237	1.24	100	1	547	-	1550	-	0.95	100	3	571	66.9	2233	1056	1.14	100
24	-	-	-	-	-	-	-	3	662	116	3633	1901	1.16	100	3	662	116	3633	1901	1.16	100
25	1	865	-	6400	-	0.99	100	-	-	-	-	-	-	-	1	865	-	6400	-	0.99	100
26	1	591	-	2350	-	1.14	100	-	-	-	-	-	-	-	1	591	-	2350	-	1.14	100
28	-	-	-	-	-	-	-	1	558	-	1950	-	1.12	100	1	558	-	1950	-	1.12	100
32	-	-	-	-	-	-	-	1	1005	-	12750	-	1.26	100	1	1005	-	12750	-	1.26	100
38	-	-	-	-	-	-	-	1	562	-	1350	-	0.76	100	1	562	-	1350	-	0.76	100
TOTAL	65							47							113						
MEAN		525	69	1688	852	1.11			540	97.1	1986	1823	1.13			530	83.7	1800	1349	1.12	
MEAN AGE	15.7							15.7							15.1						

Table 9. Biological data by length interval for lake whitefish caught by experimental gillnets from Gordon Lake, 1981.

LENGTH INTERVAL (MM)	MALES						FEMALES						COMBINED					
		LENGTH(MM)	WEIGHT(G)			%		LENGTH(MM)	WEIGHT(G)			%		LENGTH(MM)	WEIGHT(G)			%
	N	MEAN	MEAN	SD	K	MAT	N	MEAN	MEAN	SD	K	MAT	N	MEAN	MEAN	SD	K	MAT
80	-	-	-	-	-	-	-	-	-	-	-	-	1	84	50	-	8.44	0
120	-	-	-	-	-	-	-	-	-	-	-	-	1	120	150	-	8.68	0
170	-	-	-	-	-	-	-	-	-	-	-	-	2	173	50	0	0.98	0
180	-	-	-	-	-	-	-	-	-	-	-	-	6	185	67	20	1.07	0
190	-	-	-	-	-	-	1	194	50	-	0.68	0	2	195	63	18	0.85	0
200	-	-	-	-	-	-	-	-	-	-	-	-	4	205	100	0	1.17	0
210	-	-	-	-	-	-	-	-	-	-	-	-	7	210	100	0	1.08	0
220	-	-	-	-	-	-	-	-	-	-	-	-	2	222	100	0	0.91	0
230	-	-	-	-	-	-	2	234	138	18	1.08	0	11	234	139	17	1.08	0
240	3	242	150	0	1.06	0	2	244	100	71	0.68	0	9	242	147	59	1.04	0
250	-	-	-	-	-	-	2	254	150	0	0.92	50	4	254	156	13	0.95	25
260	-	-	-	-	-	-	2	265	175	35	0.94	0	2	265	175	35	0.94	0
270	1	275	250	-	1.20	0	-	-	-	-	-	-	1	275	250	-	1.20	0
280	3	284	267	29	1.17	0	-	-	-	-	-	-	3	284	267	29	1.17	0
290	3	294	350	132	1.37	0	-	-	-	-	-	-	4	295	338	111	1.32	0
300	3	307	300	0	1.03	0	1	300	320	-	1.19	0	5	305	304	9	1.07	0
310	3	312	317	29	1.04	0	1	315	300	-	0.96	0	4	313	313	25	1.02	0
320	1	322	350	-	1.05	0	1	325	400	-	1.17	0	3	322	375	25	1.12	0
330	2	335	450	71	1.21	0	2	332	375	35	1.03	0	5	334	420	57	1.13	0
340	3	340	483	29	1.23	0	1	349	400	-	0.94	0	5	342	410	124	1.03	0
350	4	352	469	75	1.07	0	3	355	483	29	1.08	0	7	353	475	56	1.08	0
360	1	365	600	-	1.23	0	3	364	533	58	1.11	0	4	364	550	58	1.14	0
380	1	380	650	-	1.18	0	1	388	800	-	1.37	0	2	384	725	106	1.28	0
390	1	395	850	-	1.38	0	-	-	-	-	-	-	1	395	850	-	1.38	0
400	1	401	900	-	1.40	0	2	407	900	141	1.34	50	3	405	900	100	1.36	33
410	-	-	-	-	-	-	3	415	1033	104	1.45	33	3	415	1033	104	1.45	33
420	3	421	1183	448	1.59	33	1	424	1600	-	2.10	100	4	422	1298	421	1.71	50
430	2	432	1200	283	1.49	50	1	436	1650	-	1.99	100	3	433	1350	328	1.66	67
440	3	444	1133	29	1.29	100	5	444	1300	218	1.49	80	8	444	1238	187	1.42	88
450	3	453	1117	76	1.20	100	1	458	2000	-	2.08	100	4	454	1338	446	1.42	100
460	4	465	1388	48	1.38	100	4	464	1575	260	1.58	100	8	465	1481	200	1.48	100
470	16	474	1503	156	1.41	100	18	473	1561	132	1.48	100	34	473	1534	145	1.45	100
480	24	484	1556	152	1.37	100	25	484	1562	89	1.38	100	51	484	1558	121	1.37	100
490	28	493	1671	119	1.39	96	25	495	1704	111	1.41	100	54	494	1686	114	1.40	98
500	36	503	1744	110	1.37	100	28	504	1766	161	1.38	100	65	504	1753	133	1.37	100
510	21	513	1898	111	1.41	100	32	513	1822	191	1.35	100	53	513	1852	167	1.37	100
520	12	524	1883	184	1.31	100	17	523	2044	186	1.43	100	29	523	1978	199	1.38	100
530	11	533	2045	113	1.35	100	10	532	1960	256	1.30	100	21	533	2005	194	1.33	100
540	12	542	2088	164	1.31	100	12	543	2073	155	1.29	100	24	543	2080	156	1.30	100
550	6	553	2208	136	1.31	100	4	553	2125	520	1.26	100	10	553	2175	320	1.29	100
560	4	562	2613	350	1.47	100	1	564	2350	-	1.31	100	5	563	2560	325	1.44	100
570	1	574	2250	-	1.19	100	1	572	2450	-	1.31	100	2	573	2350	141	1.25	100
580	3	581	2600	218	1.33	100	-	-	-	-	-	-	3	581	2600	218	1.33	100
590	3	596	2467	580	1.16	100	-	-	-	-	-	-	3	596	2467	580	1.16	100
TOTAL	222						212						482					
MEAN		480	1587	571	1.34			480	1605	518	1.36			456	1462	668	1.35	

Table 10. Biological data by age group for lake whitefish caught by experimental gillnets from Gordon Lake, 1981.

AGE (YR)	MALES N	MALES LENGTH(MM) MEAN	MALES LENGTH(MM) SD	MALES WEIGHT(G) MEAN	MALES WEIGHT(G) SD	MALES K	MALES % MAT	FEMALES N	FEMALES LENGTH(MM) MEAN	FEMALES LENGTH(MM) SD	FEMALES WEIGHT(G) MEAN	FEMALES WEIGHT(G) SD	FEMALES K	FEMALES % MAT	COMBINED N	COMBINED LENGTH(MM) MEAN	COMBINED LENGTH(MM) SD	COMBINED WEIGHT(G) MEAN	COMBINED WEIGHT(G) SD	COMBINED K	COMBINED % MAT
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	179	33.9	68	23	1.69	0
3	1	244	-	150	-	1.03	0	-	-	-	-	-	-	-	9	227	44.5	114	38	1.00	0
4	15	303	34.7	322	109	1.12	0	7	239	22.9	118	47	0.84	0	44	263	47.6	219	122	1.24	0
5	5	321	29.0	430	120	1.30	0	4	354	70.2	638	423	1.24	25	10	325	58.3	485	301	1.27	10
6	9	393	47.1	806	282	1.26	22	5	361	40.3	580	228	1.18	0	14	382	46.1	725	279	1.23	14
7	9	444	49.3	1200	447	1.29	67	13	423	52.5	1031	436	1.26	54	22	432	51.2	1100	438	1.27	59
8	15	473	48.3	1483	370	1.37	93	22	472	46.6	1470	365	1.37	91	38	473	46.0	1478	357	1.37	92
9	21	488	13.7	1583	202	1.36	100	17	477	35.1	1550	304	1.40	94	39	483	25.4	1567	246	1.38	97
10	40	499	22.5	1711	171	1.38	100	36	502	23.7	1765	210	1.41	100	77	500	22.8	1736	190	1.39	100
11	40	509	22.7	1831	233	1.39	100	54	507	21.1	1831	236	1.40	100	94	508	21.7	1831	233	1.40	100
12	30	513	19.5	1913	219	1.41	100	26	511	21.9	1852	233	1.39	100	57	512	20.3	1882	225	1.40	100
13	14	531	42.9	1986	538	1.30	100	9	525	14.7	2050	275	1.41	100	23	529	34.3	2011	447	1.34	100
14	5	534	28.6	2260	452	1.47	100	5	532	11.3	1955	57	1.30	100	10	533	20.6	2108	344	1.39	100
15	7	520	46.6	1800	548	1.24	100	5	532	19.4	2020	367	1.33	100	12	525	36.9	1892	475	1.28	100
16	1	546	-	2100	-	1.29	100	-	-	-	-	-	-	-	1	546	-	2100	-	1.29	100
17	-	-	-	-	-	-	-	1	572	-	2450	-	1.31	100	1	572	-	2450	-	1.31	100
18	1	574	-	2250	-	1.19	100	-	-	-	-	-	-	-	1	574	-	2250	-	1.19	100
TOTAL	213							204							463						
MEAN		478	71	1577	565	1.34			482	66.7	1616	510	1.36			457	99.8	1464	662	1.36	
MEAN AGE		10.0							10.0							9.3					

Table 11. Biological data by length interval for northern pike caught by experimental gillnets from Gordon Lake, 1981.

LENGTH INTERVAL (MM)	MALES N	MALES LENGTH(MM) MEAN	MALES WEIGHT(G) MEAN	MALES WEIGHT(G) SD	MALES K	MALES % MAT	FEMALES N	FEMALES LENGTH(MM) MEAN	FEMALES WEIGHT(G) MEAN	FEMALES WEIGHT(G) SD	FEMALES K	FEMALES % MAT	COMBINED N	COMBINED LENGTH(MM) MEAN	COMBINED WEIGHT(G) MEAN	COMBINED WEIGHT(G) SD	COMBINED K	COMBINED % MAT
340	1	340	400	-	1.02	0	-	-	-	-	-	-	1	340	400	-	1.02	0
500	1	512	950	-	0.71	100	-	-	-	-	-	-	1	512	950	-	0.71	100
540	1	557	1150	-	0.67	100	-	-	-	-	-	-	1	557	1150	-	0.67	100
560	2	568	1475	35	0.81	100	-	-	-	-	-	-	2	568	1475	35	0.81	100
580	3	585	1567	115	0.78	67	-	-	-	-	-	-	4	584	1500	163	0.75	50
600	5	608	1680	76	0.75	100	-	-	-	-	-	-	5	608	1680	76	0.75	100
620	4	632	1850	227	0.73	100	-	-	-	-	-	-	5	631	1790	238	0.71	80
640	3	651	1967	76	0.71	100	-	-	-	-	-	-	3	651	1967	76	0.71	100
660	1	670	2250	-	0.75	100	-	-	-	-	-	-	1	670	2250	-	0.75	100
680	1	680	1950	-	0.62	100	-	-	-	-	-	-	1	680	1950	-	0.62	100
720	1	730	3050	-	0.78	100	-	-	-	-	-	-	1	730	3050	-	0.78	100
740	-	-	-	-	-	-	-	-	-	-	-	-	1	742	2500	-	0.61	0
760	1	770	3150	-	0.69	100	-	-	-	-	-	-	1	770	3150	-	0.69	100
780	-	-	-	-	-	-	1	790	3150	-	0.64	100	1	790	3150	-	0.64	100
820	-	-	-	-	-	-	-	-	-	-	-	-	1	830	3200	-	0.56	0
TOTAL	24						1						29					
MEAN		611	1760	569	0.75			790	3150	-	0.64			629	1860	653	0.73	

Table 12. Biological data by age group for northern pike caught by experimental gillnets from Gordon Lake, 1981.

AGE (YR)	MALES N	MALES LENGTH(MM) MEAN	MALES LENGTH(MM) SD	MALES WEIGHT(G) MEAN	MALES WEIGHT(G) SD	MALES K	MALES % MAT	FEMALES N	FEMALES LENGTH(MM) MEAN	FEMALES LENGTH(MM) SD	FEMALES WEIGHT(G) MEAN	FEMALES WEIGHT(G) SD	FEMALES K	FEMALES % MAT	COMBINED N	COMBINED LENGTH(MM) MEAN	COMBINED LENGTH(MM) SD	COMBINED WEIGHT(G) MEAN	COMBINED WEIGHT(G) SD	COMBINED K	COMBINED % MAT
6	2	581	33.9	1400	354	0.71	100	-	-	-	-	-	-	-	2	581	33.9	1400	354	0.71	100
7	9	576	100.9	1550	569	0.78	89	-	-	-	-	-	-	-	10	576	95.1	1525	542	0.77	89
8	4	637	71.1	2038	705	0.77	100	-	-	-	-	-	-	-	4	637	71.1	2038	705	0.77	100
10	1	635	-	2150	-	0.84	100	-	-	-	-	-	-	-	4	709	95.6	2350	689	0.66	100
TOTAL	16							0							20						
MEAN		595	86	1691	591	0.77			-	-	-	-	-			615	97.3	1780	657	0.74	
MEAN AGE	7.7																				

Table 13. Biological data by length interval for longnose sucker caught by experimental gillnets from Gordon Lake, 1981.

LENGTH INTERVAL (MM)	NO.	PERCENT	MEAN FORK LENGTH(MM)	ROUND WEIGHT(G) MEAN	ROUND WEIGHT(G) SD
170	1	8	174	50	-
240	1	8	241	200	-
250	2	17	254	225	35
270	2	17	276	275	35
280	1	8	285	350	-
310	1	8	316	350	-
360	1	8	367	750	-
390	1	8	398	900	-
420	1	8	420	1050	-
480	1	8	487	1800	-
TOTAL	12				
MEAN			312	538	504

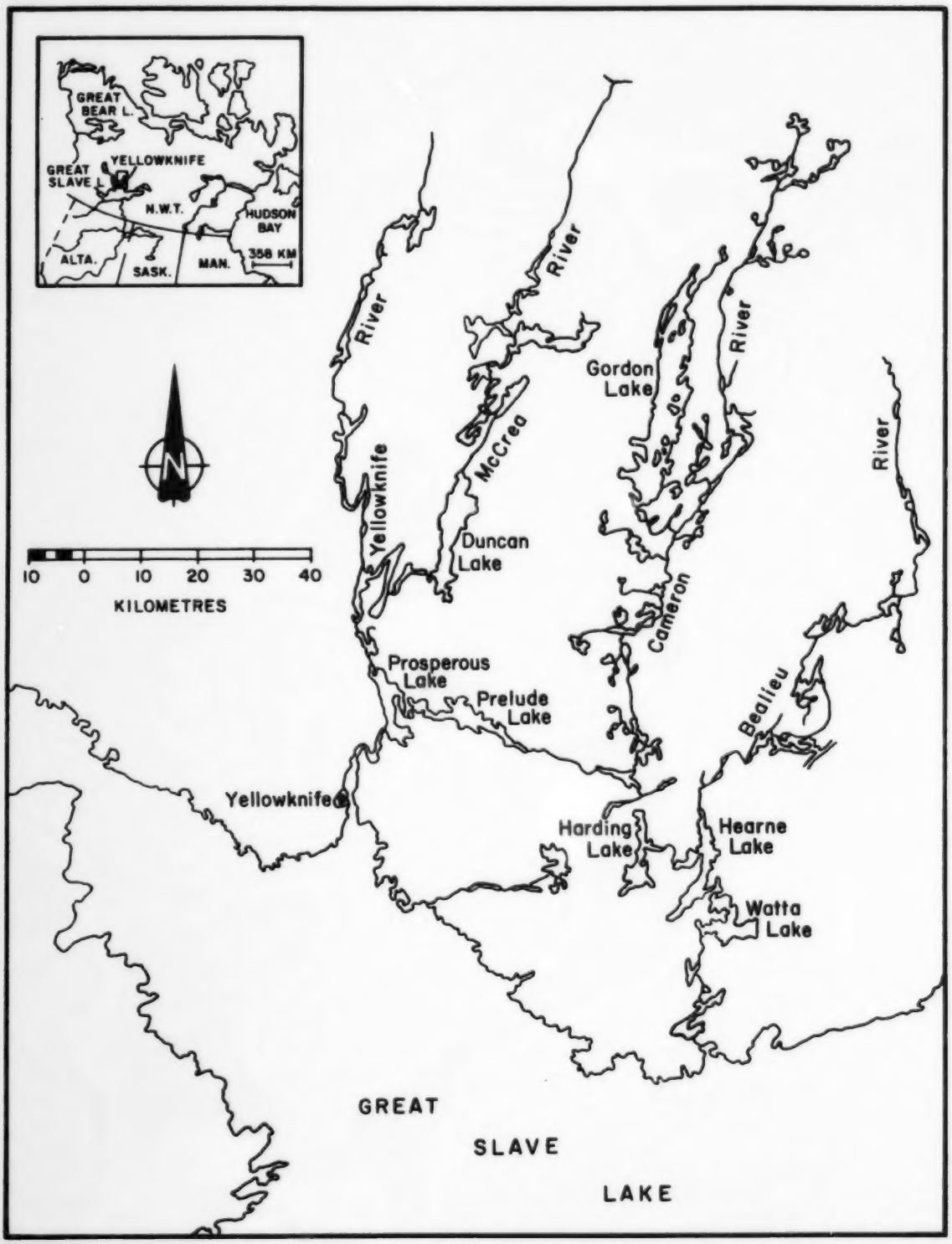

Fig. 1. Map of the Northwest Territories depicting the location of Gordon Lake.

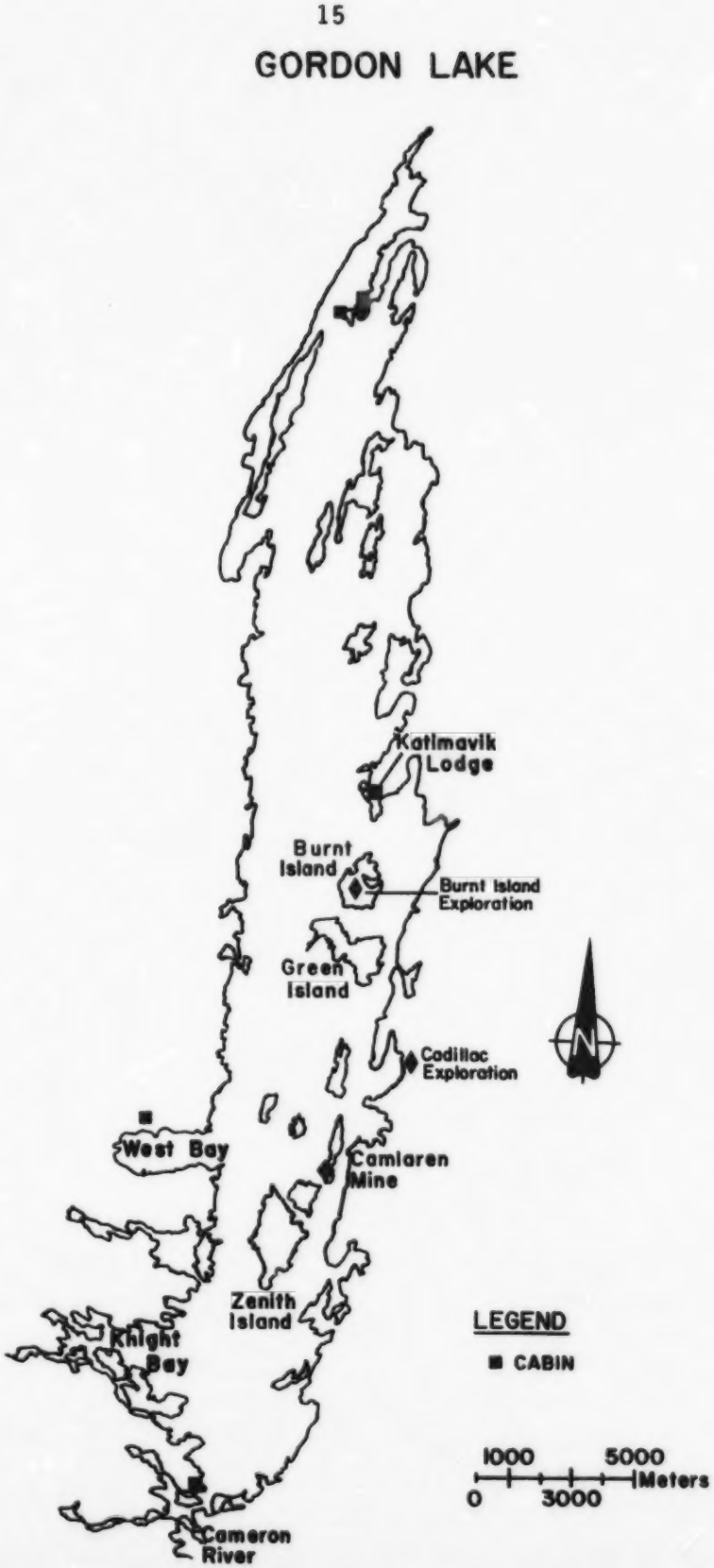

Fig. 2. Map of Gordon Lake showing the locations of Katimavik Lodge, mining sites and cabins.

Fig. 3. Map of Gordon Lake depicting the areas utilized for sport fishing in 1981.

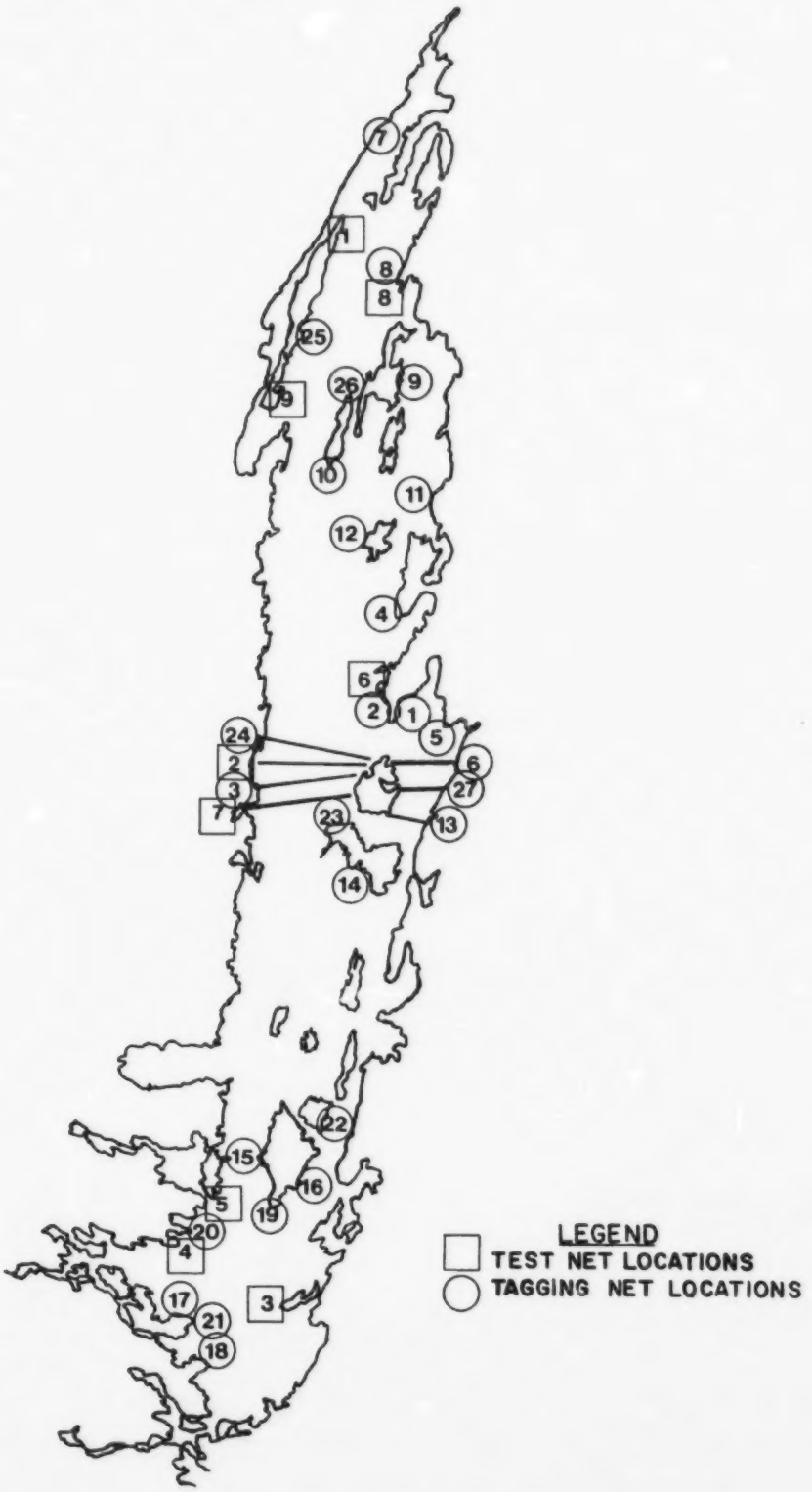

Fig. 4. Map of Gordon Lake showing the experimental gillnet locations and tagging sites in 1981.

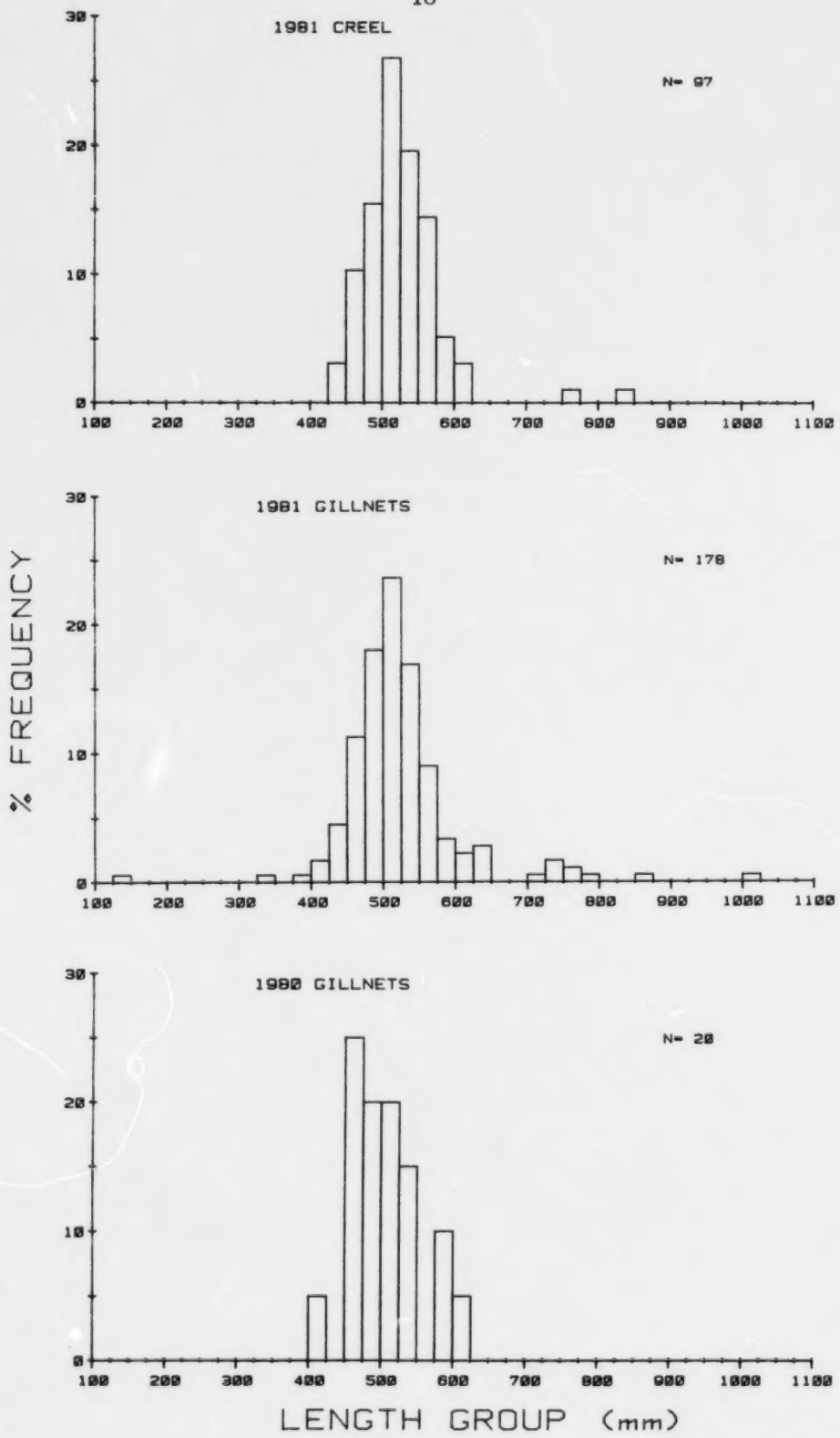

Fig. 5. Length-frequency histograms for lake trout from Gordon Lake caught by experimental gillnets in 1980 and 1981 and from the angler's creel in 1981.

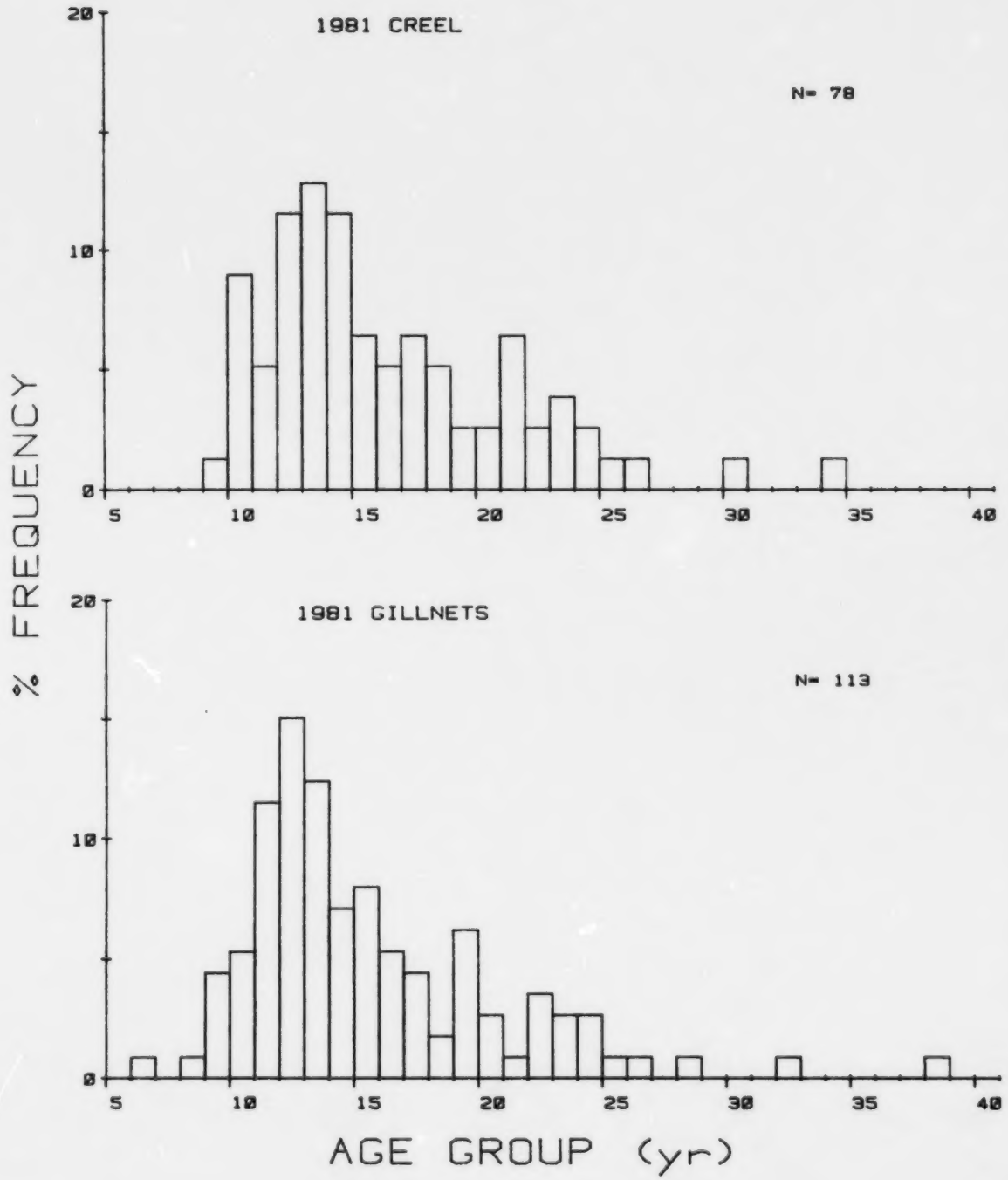

Fig. 6. Age-frequency histograms for lake trout caught by angling and by experimental gillnets from Gordon Lake, 1981.

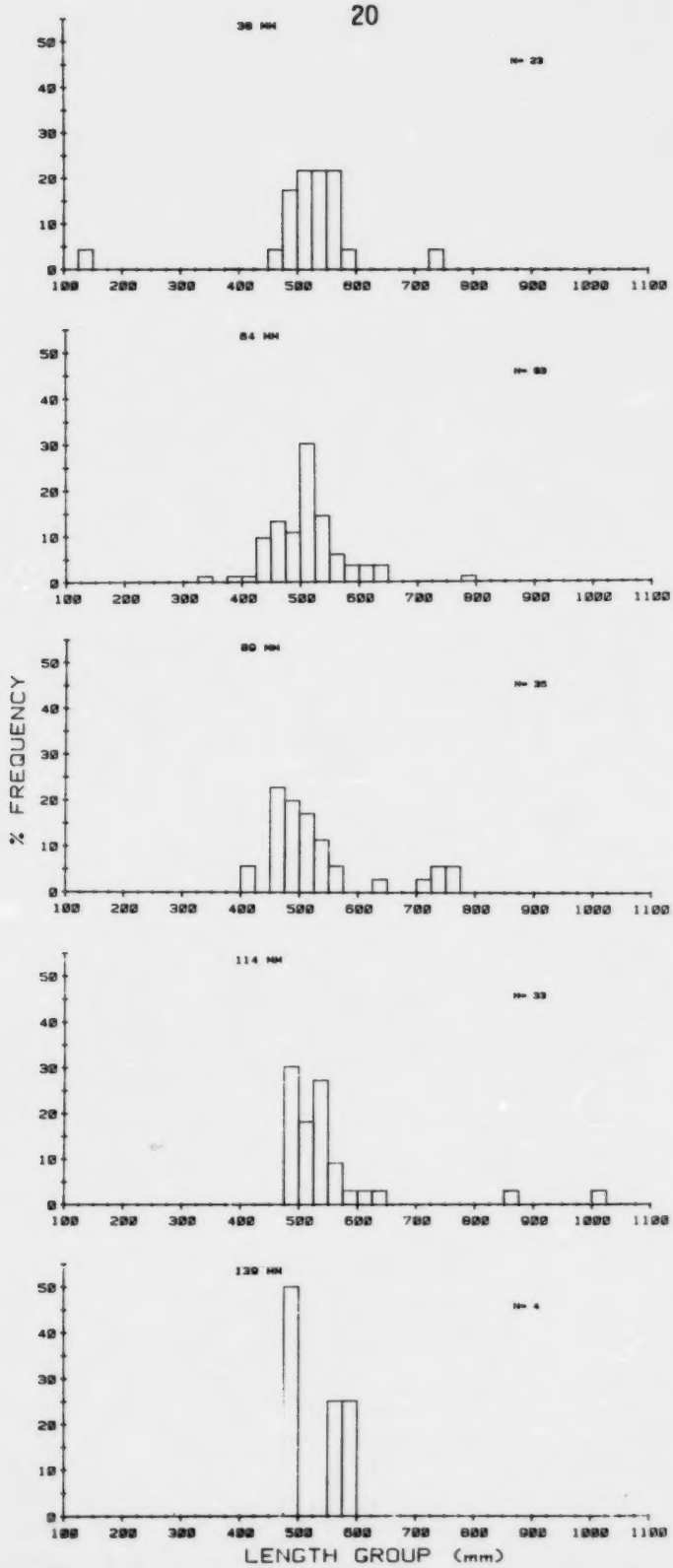

Fig. 7. Length-frequency histograms for lake trout caught in experimental gillnets, by mesh size, from Gordon Lake, 1981.

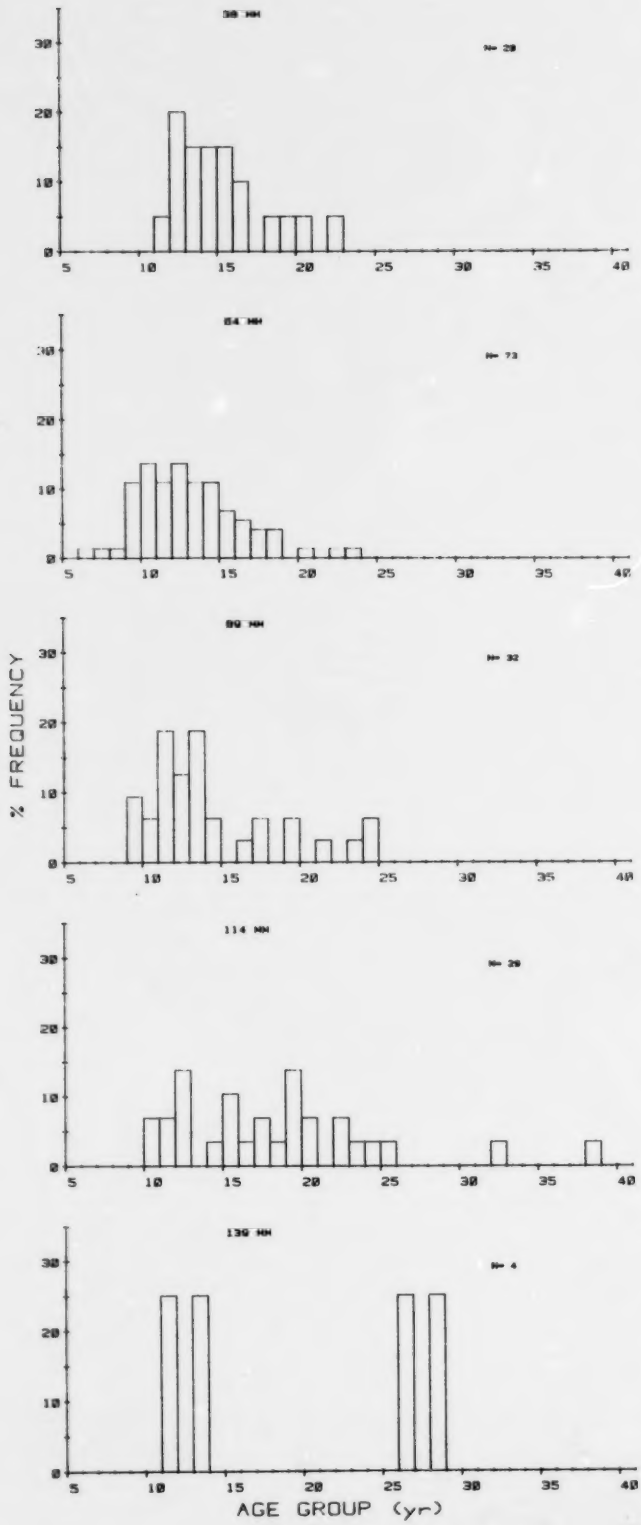

Fig. 8. Age-frequency histograms for lake trout caught in experimental gillnets, by mesh size, from Gordon Lake, 1981.

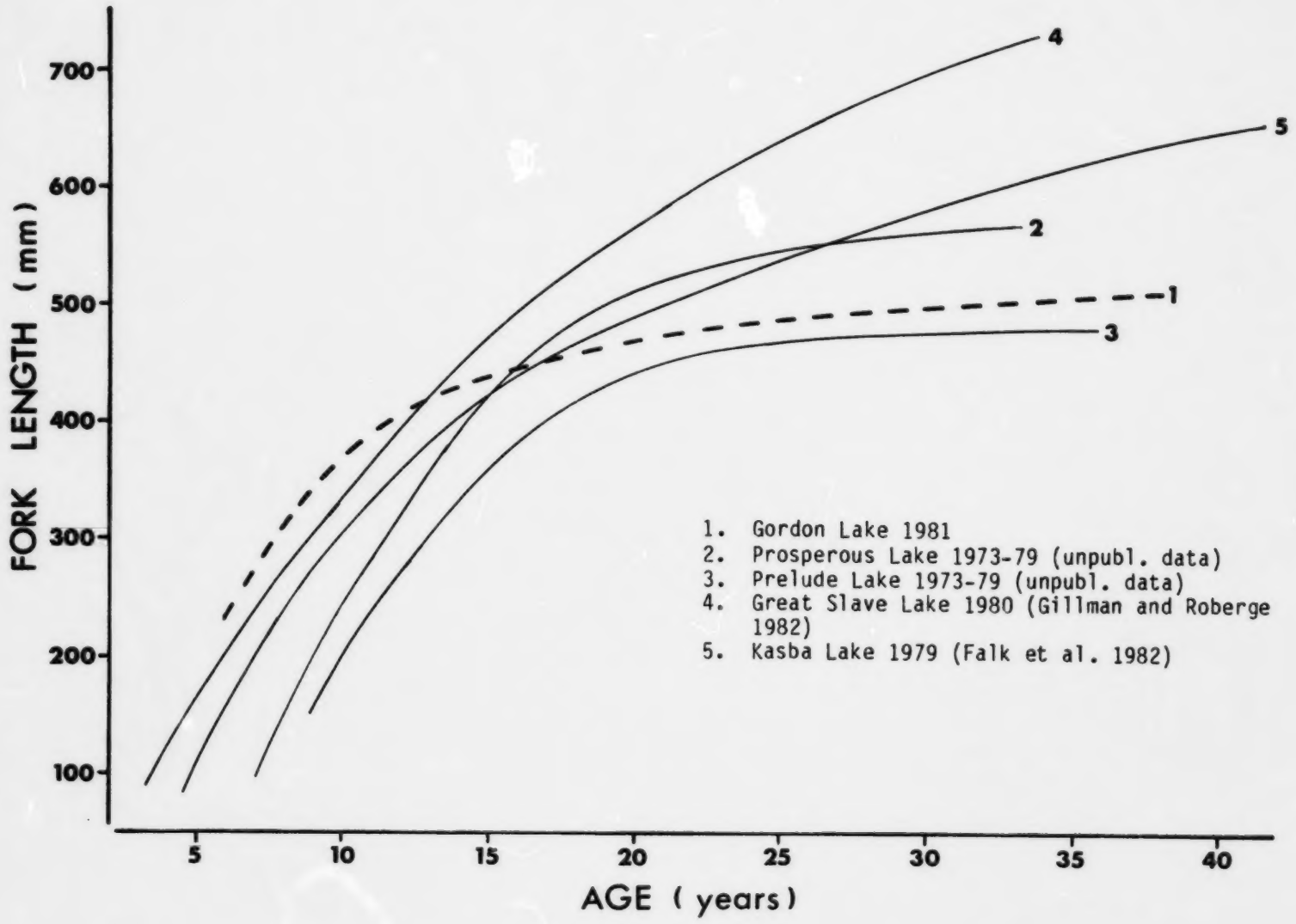

Fig. 9. Length-at-age relationship for lake trout from Gordon Lake, 1981 compared with other northern lakes.

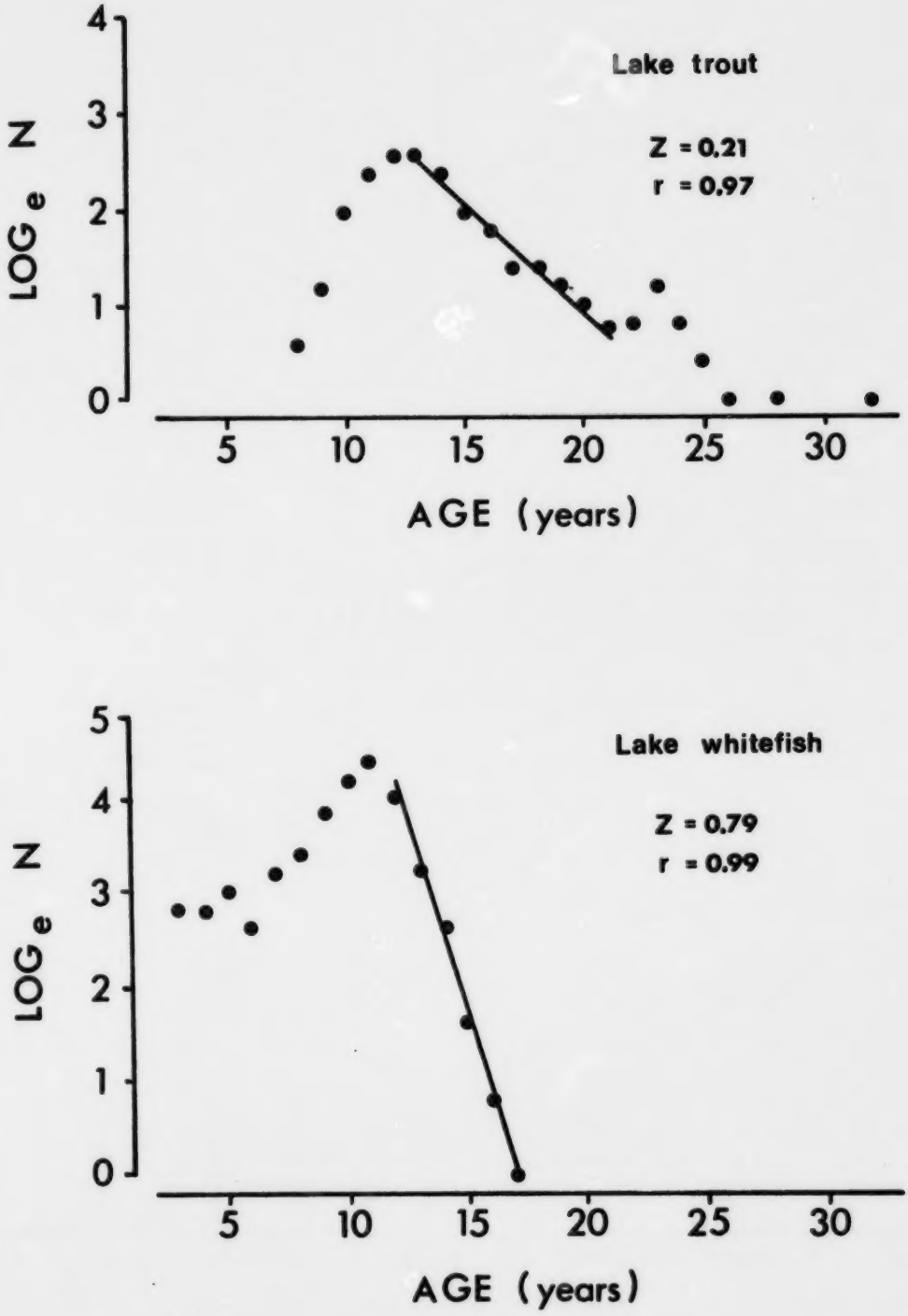

Fig. 10. Catch curves for lake trout and lake whitefish caught by experimental gillnets from Gordon Lake, 1981.

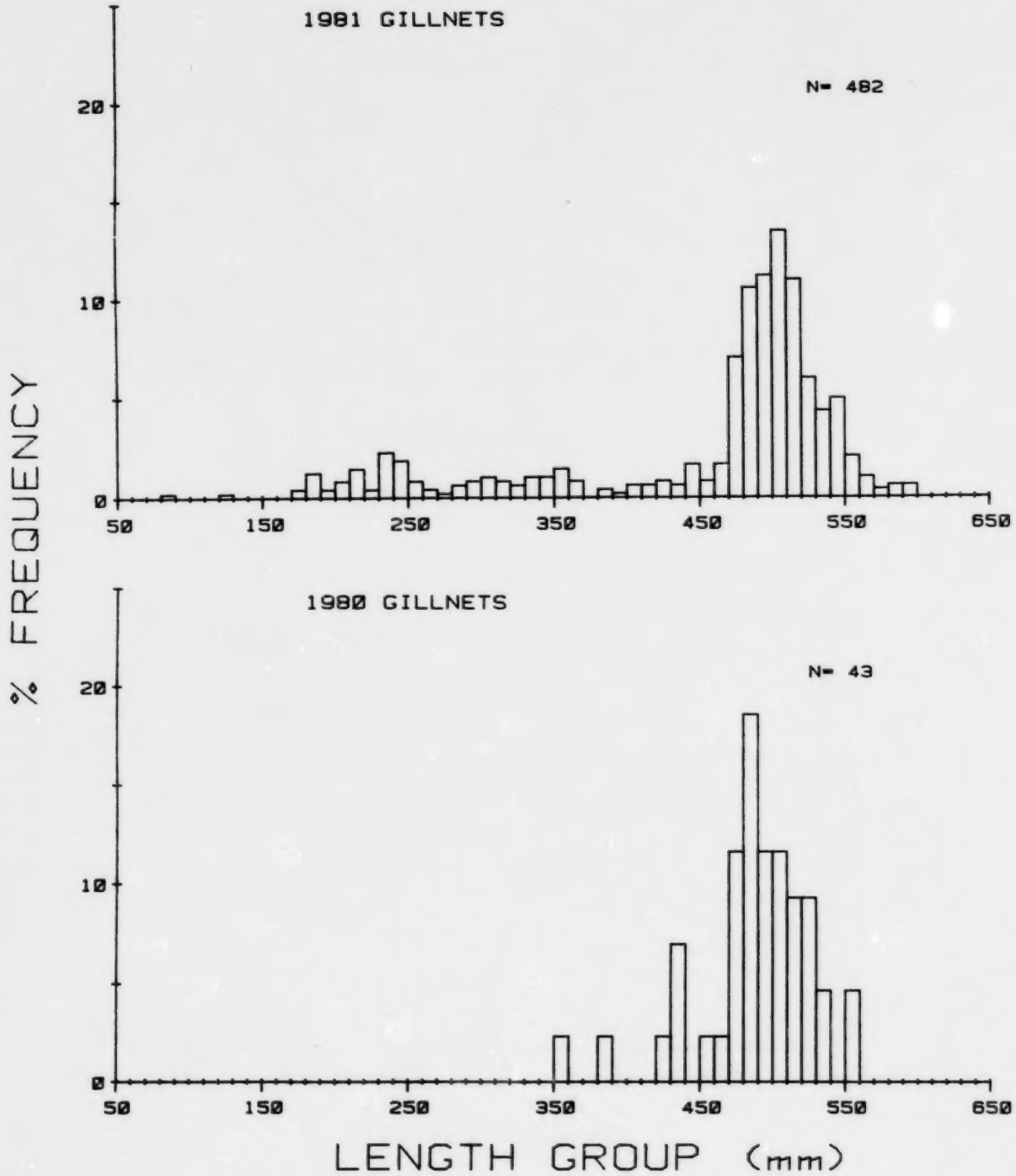

Fig. 11. Length-frequency histograms for lake whitefish from Gordon Lake, 1980 and 1981.

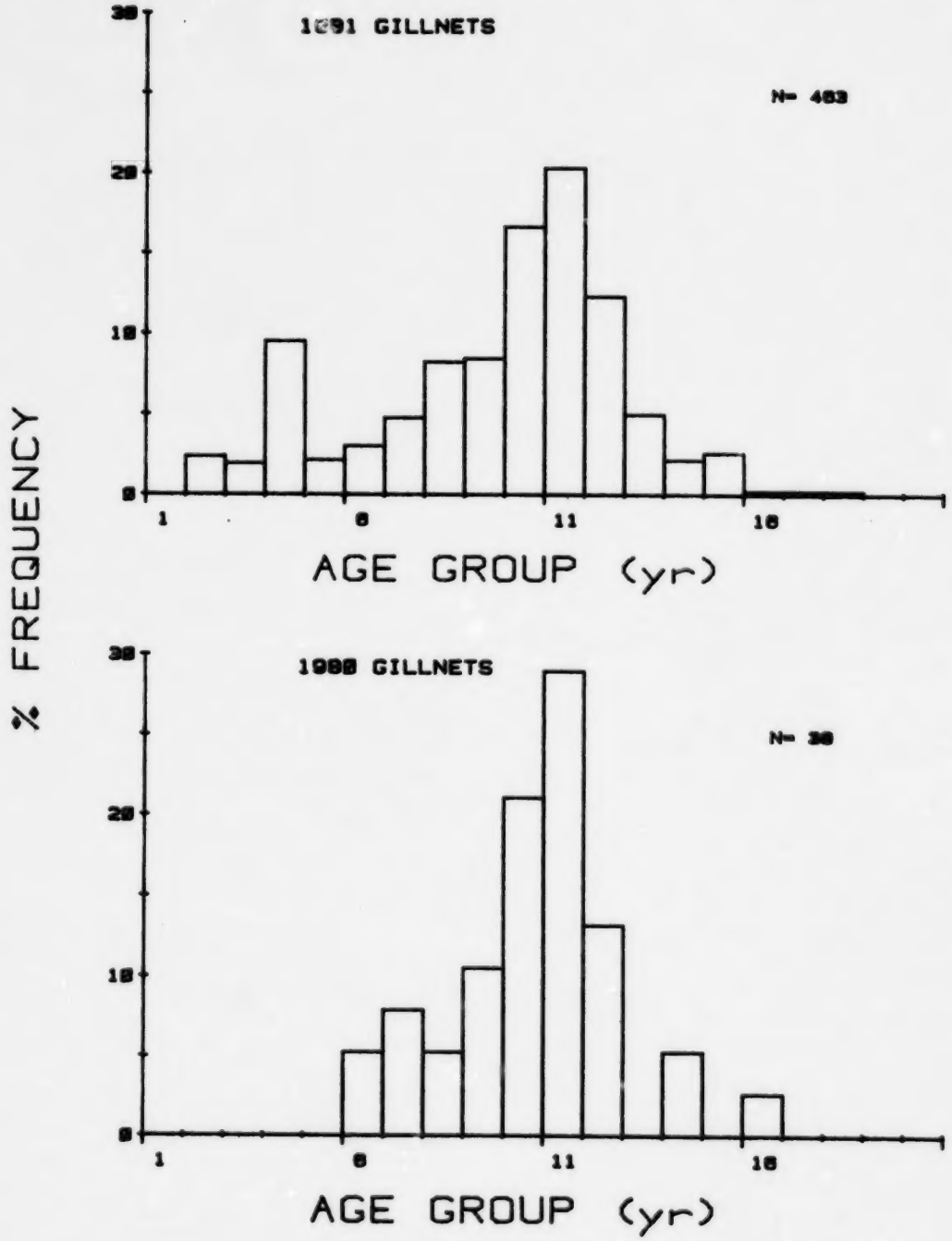

Fig. 12. Age-frequency histograms for lake whitefish from Gordon Lake, 1980 and 1981.

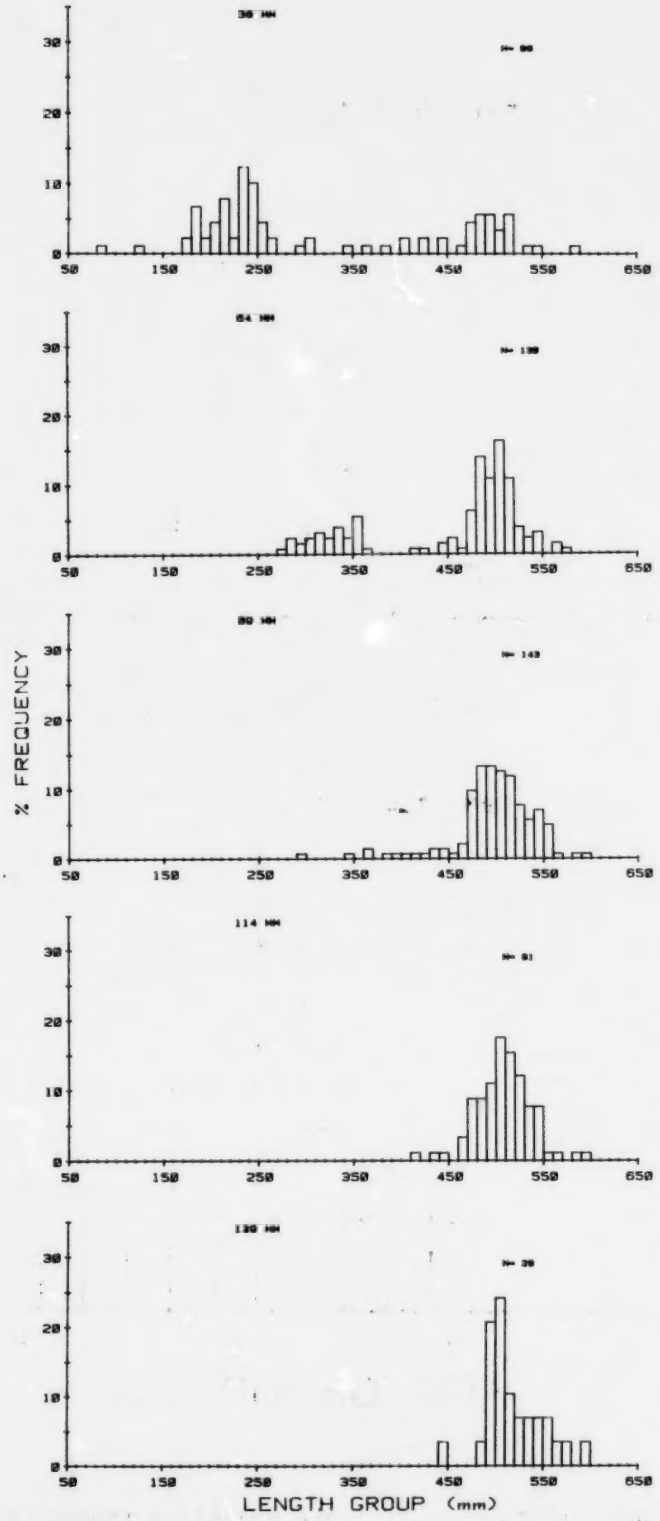

Fig. 13. Length-frequency histograms for lake whitefish caught in experimental gillnets, by mesh size, from Gordon Lake, 1981.

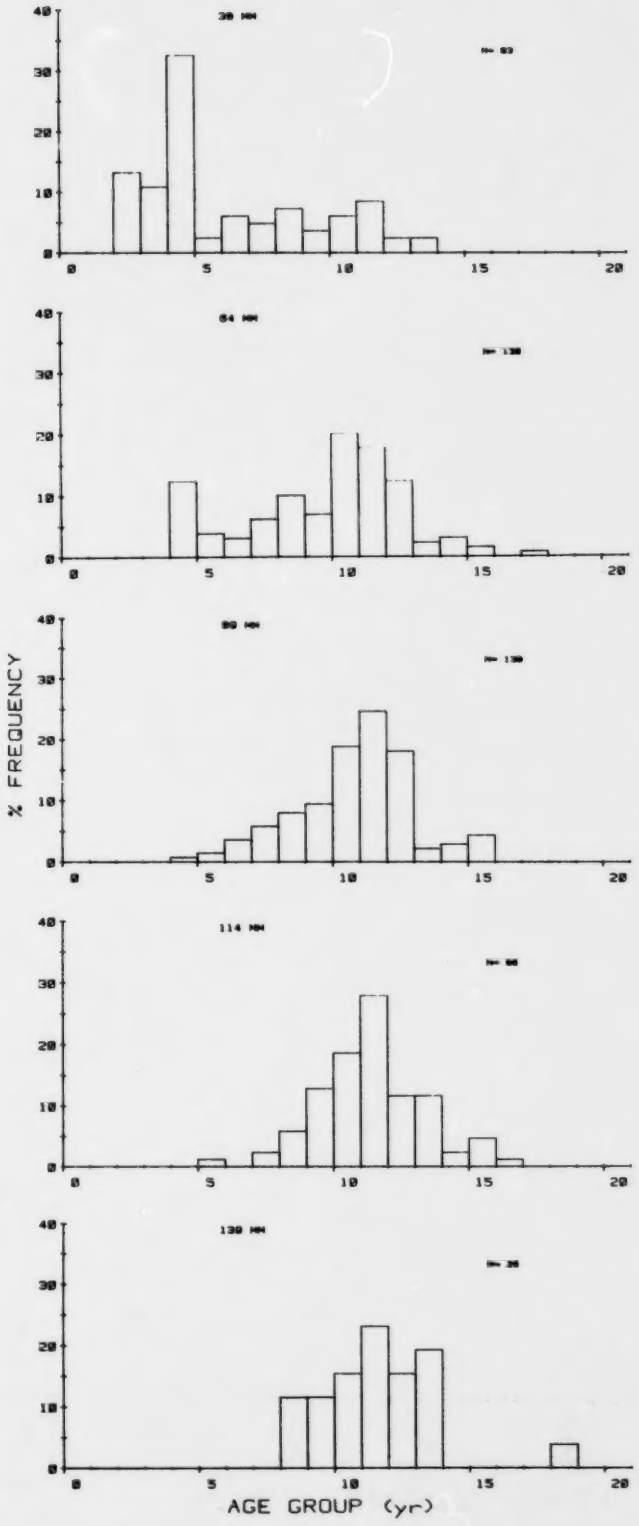

Fig. 14. Age-frequency histograms for lake whitefish caught in experimental gillnets, by mesh size, from Gordon Lake, 1981.

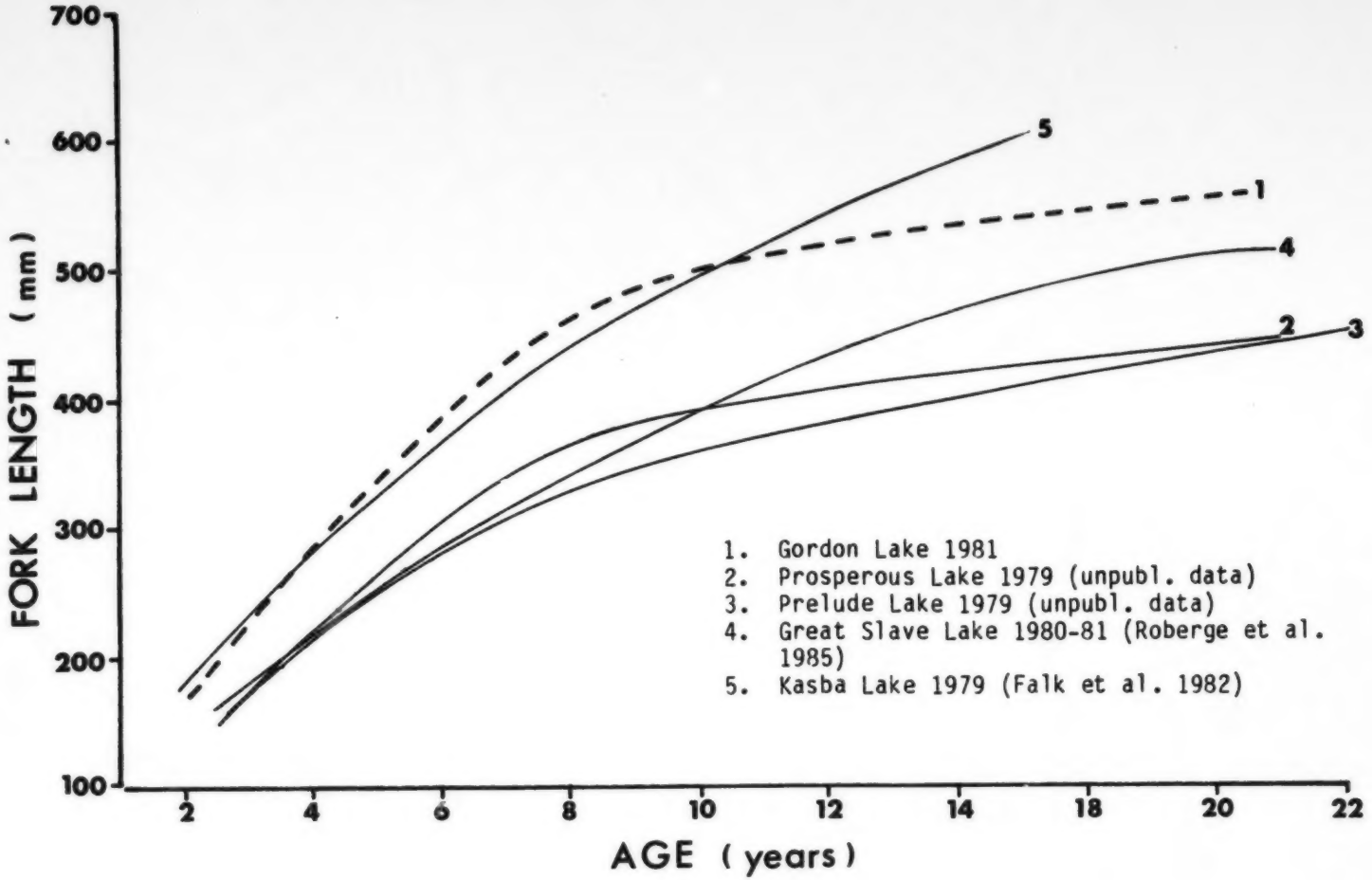

Fig. 15. Length-at-age relationships for lake whitefish from Gordon Lake, 1981 compared with other northern lakes.

Appendix 1. Summary of information on sampling dates, sample locations, set duration, and catch per unit of effort (CPE) for the experimental gillnet sets on Gordon Lake, 1981.

Date	Set Number	Set Duration (h)	Total Catch (kg)	CPE[1]
June 29	1	24.0	67	26.8
June 30	2	24.0	70	28.0
July 3	3	25.0	84	32.3
July 4	4	24.0	56	22.4
July 6	5	24.0	24	9.6
July 7	6	24.5	91	35.7
July 10	7	64.0	126	18.9
July 12	8	23.0	58	24.2
July 13	9	23.0	89	37.1

[1] No. fish/100 m gillnet/24 h.

Appendix 2. A description of the codes used to determine the relative stages of maturity for northern fishes.

FISH MATURITY CODE

Maturity State		Female		Male
Immature (virgin)	1	- ovaries granular in texture - hard and triangular in shape - up to full length of body cavity - membrane full - eggs distinguishable	6	- testes long and thin - tubular and scalloped shape - up to full body length - putty-like firmness
Mature	2	- current year spawner - ovary fills body cavity - eggs near full size but not loose - not expelled by pressure	7	- current year spawner - testes large and lobate - white to purplish color - centers may be fluid - milt not expelled by pressure
Ripe	3	- ovaries greatly extended and fill body cavity - eggs full size and transparent - expelled by slight pressure	8	- testes full size - white and lobate - milt expelled by slight pressure
Spent	4	- spawning complete - ovaries ruptured and flaccid - developing oocytes visible - some retained eggs in body cavity	9	- spawning complete - testes flaccid with some milt - blood vessels obvious - testes violet-pink in color
Resting	5	- ovary 40-50% of body cavity - membrane thin, loose, and semi-transparent - healed from spawning - developing oocytes apparent with few atretic eggs - some eggs may be retained in body cavity	10	- testes tubular, less lobate - healed from spawning - no fluid in center - usually full length - mottled and purplish in color
Unknown (virgin)	0	- cannot be sexed - gonads long or short and thin - transparent or translucent		
Unknown (non-virgin)	11	- resting fish - has spawned but gonads regenerated - sexing not possible		

Appendix 3. Biological data by length interval for lake trout caught by experimental gillnets (38mm mesh) from Gordon Lake, 1981.

LENGTH INTERVAL (MM)	MALES						FEMALES						COMBINED					
		LENGTH(MM)	WEIGHT(G)			%		LENGTH(MM)	WEIGHT(G)			%		LENGTH(MM)	WEIGHT(G)			%
	N	MEAN	MEAN	SD	K	MAT	N	MEAN	MEAN	SD	K	MAT	N	MEAN	MEAN	SD	K	MAT
125	-	-	-	-	-	-	-	-	-	-	-	-	1	130	25	-	1.14	0
450	1	470	1100	-	1.06	100	-	-	-	-	-	-	1	470	1100	-	1.06	100
475	2	486	1350	141	1.17	100	2	485	1275	106	1.12	100	4	485	1313	111	1.15	100
500	5	515	1530	27	1.12	100	-	-	-	-	-	-	5	515	1530	27	1.12	100
525	4	538	1763	144	1.13	100	1	545	1700	-	1.05	100	5	540	1750	127	1.11	100
550	3	563	1867	126	1.05	100	2	570	1900	212	1.03	100	5	566	1880	140	1.04	100
575	1	580	1900	-	0.97	100	-	-	-	-	-	-	1	580	1900	-	0.97	100
725	1	740	2800	-	0.69	100	-	-	-	-	-	-	1	740	2800	-	0.69	100
TOTAL	17						5						23					
MEAN		540	1694	372	1.08			531	1610	338	1.07			520[a]	1603	491	1.08	

[a] Includes fish tagged and released.

Appendix 4. Biologcal data by length interval for lake trout caught by experimental gillnets (64 mm mesh) from Gordon Lake, 1981.

LENGTH INTERVAL (MM)	MALES						FEMALES						COMBINED					
		LENGTH(MM)	WEIGHT(G)			%		LENGTH(MM)	WEIGHT(G)			%		LENGTH(MM)	WEIGHT(G)			%
	N	MEAN	MEAN	SD	K	MAT	N	MEAN	MEAN	SD	K	MAT	N	MEAN	MEAN	SD	K	MAT
325	-	-	-	-	-	-	-	-	-	-	-	-	1	330	350	-	0.97	0
375	1	382	550	-	0.99	0	-	-	-	-	-	-	1	382	550	-	0.99	0
400	-	-	-	-	-	-	1	424	850	-	1.12	100	1	424	850	-	1.12	100
425	3	437	917	29	1.10	100	5	437	940	175	1.13	20	8	437	931	133	1.12	50
450	5	464	1170	91	1.17	100	3	460	1067	161	1.09	33	11	461	1136	110	1.16	55
475	5	488	1330	115	1.15	100	3	489	1367	153	1.17	100	9	487	1344	113	1.16	89
500	12	511	1533	147	1.15	100	9	510	1533	112	1.15	100	25	510	1516	132	1.14	84
525	7	539	1686	125	1.08	100	4	540	1775	65	1.13	100	12	538	1717	107	1.10	92
550	4	566	1975	247	1.09	100	-	-	-	-	-	-	5	566	1970	214	1.08	80
575	-	-	-	-	-	-	3	582	2067	388	1.04	100	3	582	2067	388	1.04	100
600	2	614	2500	0	1.08	100	1	620	2400	-	1.01	100	3	616	2467	58	1.06	100
625	3	641	2400	1132	0.91	100	-	-	-	-	-	-	3	641	2400	1132	0.91	100
775	1	790	5950	-	1.21	100	-	-	-	-	-	-	1	790	5950	-	1.21	100
TOTAL	43						29						83					
MEAN		524	1676	843	1.11			502	1460	434	1.12			511[a]	1553	683	1.12	

[a] Includes fish tagged and released.

Appendix 5. Biological data by length interval for lake trout caught by experimental gillnets (89 mm mesh) from Gordon Lake, 1981.

LENGTH INTERVAL (MM)	MALES						FEMALES						COMBINED					
		LENGTH(MM)	WEIGHT(G)			%		LENGTH(MM)	WEIGHT(G)			%		LENGTH(MM)	WEIGHT(G)			%
	N	MEAN	MEAN	SD	K	MAT	N	MEAN	MEAN	SD	K	MAT	N	MEAN	MEAN	SD	K	MAT
400	1	418	1150	-	1.57	100	1	410	750	-	1.09	100	2	414	950	283	1.33	100
450	4	459	1063	95	1.10	100	4	467	1088	48	1.07	100	8	463	1075	71	1.08	100
475	3	479	1250	87	1.14	100	4	484	1475	218	1.30	100	7	482	1379	202	1.23	100
500	5	509	1510	241	1.14	100	1	515	1450	-	1.06	100	6	510	1500	217	1.13	100
525	2	535	1650	71	1.08	100	2	535	1725	35	1.13	100	4	535	1688	63	1.10	100
550	-	-	-	-	-	-	2	553	1900	71	1.12	100	2	553	1900	71	1.12	100
625	1	635	2750	-	1.07	100	-	-	-	-	-	-	1	635	2750	-	1.07	100
700	-	-	-	-	-	-	1	700	3700	-	1.08	100	1	700	3700	-	1.08	100
725	1	726	4950	-	1.29	100	1	740	5000	-	1.23	100	2	733	4975	35	1.26	100
750	1	758	5150	-	1.18	100	1	755	5500	-	1.28	100	2	757	5325	247	1.23	100
TOTAL	18						17						35					
MEAN		524	1825	1243	1.16			535	1994	1387	1.16			529[a]	1907	1298	1.16	

[a] Includes fish tagged and released.

Appendix 6. Biological data by length interval for lake trout caught by experimental gillnets (114 mm mesh) from Gordon Lake, 1981.

LENGTH INTERVAL (MM)	MALES						FEMALES						COMBINED					
		LENGTH(MM)	WEIGHT(G)			%		LENGTH(MM)	WEIGHT(G)			%		LENGTH(MM)	WEIGHT(G)			%
	N	MEAN	MEAN	SD	K	MAT	N	MEAN	MEAN	SD	K	MAT	N	MEAN	MEAN	SD	K	MAT
475	6	487	1275	69	1.10	100	4	487	1388	118	1.20	100	10	487	1320	103	1.14	100
500	3	508	1450	50	1.11	100	3	510	1450	50	1.10	100	6	509	1450	45	1.10	100
525	5	541	1650	180	1.05	100	4	541	1625	119	1.03	100	9	541	1639	147	1.04	100
550	-	-	-	-	-	-	3	562	1717	318	0.97	100	3	562	1717	318	0.97	100
575	1	578	1700	-	0.88	100	-	-	-	-	-	-	1	578	1700	-	0.88	100
600	-	-	-	-	-	-	1	602	2000	-	0.92	100	1	602	2000	-	0.92	100
625	-	-	-	-	-	-	1	642	2950	-	1.11	100	1	642	2950	-	1.11	100
850	1	865	6400	-	0.99	100	-	-	-	-	-	-	1	865	6400	-	0.99	100
1000	-	-	-	-	-	-	1	1005	12750	-	1.26	100	1	1005	12750	-	1.26	100
TOTAL	16						17						33					
MEAN		537	1772	1250	1.07			563	2309	2720	1.08			551[a]	2048	2123	1.07	

[a] Includes fish tagged and released.

Appendix 7. Biological data by length interval for lake trout caught by experimental gillnets (139 mm mesh) from Gordon Lake, 1981.

LENGTH INTERVAL (MM)	MALES						FEMALES						COMBINED					
	LENGTH(MM)		WEIGHT(G)			%	LENGTH(MM)		WEIGHT(G)			%	LENGTH(MM)		WEIGHT(G)			%
	N	MEAN	MEAN	SD	K	MAT	N	MEAN	MEAN	SD	K	MAT	N	MEAN	MEAN	SD	K	MAT
475	2	493	1350	0	1.13	100	-	-	-	-	-	-	2	493	1350	0	1.13	100
550	-	-	-	-	-	-	1	558	1950	-	1.12	100	1	558	1950	-	1.12	100
575	1	591	2350	-	1.14	100	-	-	-	-	-	-	1	591	2350	-	1.14	100
TOTAL	3						1						4					
MEAN		525	1683	577	1.13			558	1950	-	1.12			534[a]	1750	490	1.13	

[a] Includes fish tagged and released.

Appendix 8. Biological data by age group for lake trout caught by experimental gillnets (38 mm mesh) from Gordon Lake, 1981.

AGE (YR)	MALES							FEMALES							COMBINED						
	LENGTH(MM)			WEIGHT(G)			%	LENGTH(MM)			WEIGHT(G)			%	LENGTH(MM)			WEIGHT(G)			%
	N	MEAN	SD	MEAN	SD	K	MAT	N	MEAN	SD	MEAN	SD	K	MAT	N	MEAN	SD	MEAN	SD	K	MAT
11	1	494	-	1450	-	1.20	100	-	-	-	-	-	-	-	1	494	-	1450	-	1.20	100
12	3	513	39.1	1533	301	1.13	100	1	570	-	1750	-	0.94	100	4	527	42.9	1588	269	1.08	100
13	2	532	17.7	1700	212	1.13	100	1	487	-	1200	-	1.04	100	3	517	28.6	1533	325	1.10	100
14	3	542	34.0	1650	218	1.04	100	-	-	-	-	-	-	-	3	542	34.0	1650	218	1.04	100
15	1	519	-	1550	-	1.11	100	2	526	62.2	1700	495	1.16	100	3	524	44.2	1650	361	1.14	100
16	1	515	-	1550	-	1.13	100	1	545	-	1700	-	1.05	100	2	530	21.2	1625	106	1.09	100
18	1	539	-	1850	-	1.18	100	-	-	-	-	-	-	-	1	539	-	1850	-	1.18	100
19	1	540	-	1800	-	1.14	100	-	-	-	-	-	-	-	1	540	-	1800	-	1.14	100
20	1	564	-	2000	-	1.11	100	-	-	-	-	-	-	-	1	564	-	2000	-	1.11	100
22	1	570	-	1750	-	0.94	100	-	-	-	-	-	-	-	1	570	-	1750	-	0.94	100
TOTAL	15							5							20						
MEAN		531	29	1660	211	1.11			531	43.5	1610	338	1.07			531	31.7	1648	239	1.10	
MEAN AGE	14.8																				

Appendix 9. Biological data by age group for lake trout caught by experimental gillnets (64 mm mesh) from Gordon Lake, 1981.

AGE (YR)	MALES N	MALES LENGTH(MM) MEAN	MALES LENGTH(MM) SD	MALES WEIGHT(G) MEAN	MALES WEIGHT(G) SD	MALES K	MALES % MAT	FEMALES N	FEMALES LENGTH(MM) MEAN	FEMALES LENGTH(MM) SD	FEMALES WEIGHT(G) MEAN	FEMALES WEIGHT(G) SD	FEMALES K	FEMALES % MAT	COMBINED N	COMBINED LENGTH(MM) MEAN	COMBINED LENGTH(MM) SD	COMBINED WEIGHT(G) MEAN	COMBINED WEIGHT(G) SD	COMBINED K	COMBINED % MAT
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	330	-	350	-	0.97	0
7	1	434	-	900	-	1.10	100	-	-	-	-	-	-	-	1	434	-	900	-	1.10	100
8	1	382	-	550	-	0.99	0	-	-	-	-	-	-	-	1	382	-	550	-	0.99	0
9	5	470	35.8	1190	272	1.13	100	2	439	4.9	850	0	1.01	0	8	460	30.7	1094	257	1.11	71
10	2	468	7.1	1150	141	1.12	100	6	464	40.1	1142	401	1.10	50	10	470	32.7	1160	310	1.09	63
11	4	486	17.7	1313	155	1.14	100	3	490	15.5	1383	126	1.18	100	8	483	19.6	1331	131	1.18	100
12	3	493	30.3	1517	236	1.26	100	5	499	28.4	1410	246	1.13	80	10	496	24.5	1450	209	1.18	88
13	6	549	41.5	1825	362	1.10	100	2	551	97.6	1800	849	1.04	100	8	549	50.9	1819	443	1.08	100
14	3	570	71.0	1483	407	0.85	100	5	527	64.6	1790	471	1.23	100	8	543	65.8	1675	446	1.09	100
15	3	567	58.2	1983	493	1.08	100	1	544	-	1800	-	1.12	100	5	553	46.3	1850	408	1.08	100
16	1	545	-	1600	-	0.99	100	1	494	-	1400	-	1.16	100	4	518	23.6	1500	183	1.08	100
17	2	524	12.0	1575	106	1.10	100	1	578	-	1750	-	0.91	100	3	542	32.6	1633	126	1.04	100
18	2	540	43.1	1875	601	1.17	100	1	510	-	1500	-	1.13	100	3	530	34.9	1750	477	1.16	100
20	1	520	-	1700	-	1.21	100	-	-	-	-	-	-	-	1	520	-	1700	-	1.21	100
22	1	615	-	2500	-	1.07	100	-	-	-	-	-	-	-	1	615	-	2500	-	1.07	100
23	1	647	-	3450	-	1.27	100	-	-	-	-	-	-	-	1	647	-	3450	-	1.27	100
TOTAL	36							27							73						
MEAN		519	61	1583	553	1.11			500	52.1	1435	440	1.12			506	58.8	1484	499	1.11	
MEAN AGE	12.7																				

Appendix 10. Biological data by age group for lake trout caught by experimental gillnets (89 mm mesh) from Gordon Lake, 1981.

AGE (YR)	MALES N	MALES LENGTH(MM) MEAN	MALES LENGTH(MM) SD	MALES WEIGHT(G) MEAN	MALES WEIGHT(G) SD	MALES K	MALES % MAT	FEMALES N	FEMALES LENGTH(MM) MEAN	FEMALES LENGTH(MM) SD	FEMALES WEIGHT(G) MEAN	FEMALES WEIGHT(G) SD	FEMALES K	FEMALES % MAT	COMBINED N	COMBINED LENGTH(MM) MEAN	COMBINED LENGTH(MM) SD	COMBINED WEIGHT(G) MEAN	COMBINED WEIGHT(G) SD	COMBINED K	COMBINED % MAT
9	2	466	18.4	1100	141	1.08	100	1	410	-	750	-	1.09	100	3	447	34.8	983	225	1.09	100
10	1	460	-	1200	-	1.23	100	1	480	-	1800	-	1.63	100	2	470	14.1	1500	424	1.43	100
11	1	418	-	1150	-	1.57	100	5	476	12.6	1200	141	1.11	100	6	466	26.1	1192	128	1.19	100
12	1	462	-	1050	-	1.06	100	3	490	32.3	1383	325	1.16	100	4	483	30.0	1300	314	1.13	100
13	4	496	32.5	1438	345	1.17	100	2	530	21.2	1600	212	1.07	100	6	507	32.3	1492	296	1.13	100
14	1	480	-	1200	-	1.09	100	1	550	-	1850	-	1.11	100	2	515	49.5	1525	460	1.10	100
16	1	726	-	4950	-	1.29	100	-	-	-	-	-	-	-	1	726	-	4950	-	1.29	100
17	2	568	95.5	2000	1061	1.04	100	-	-	-	-	-	-	-	2	568	95.5	2000	1061	1.04	100
19	-	-	-	-	-	-	-	2	648	130.1	3475	2157	1.18	100	2	648	130.1	3475	2157	1.18	100
21	1	505	-	1300	-	1.01	100	-	-	-	-	-	-	-	1	505	-	1300	-	1.01	100
23	1	520	-	1700	-	1.21	100	-	-	-	-	-	-	-	1	520	-	1700	-	1.21	100
24	-	-	-	-	-	-	-	2	728	38.9	4600	1273	1.18	100	2	728	38.9	4600	1273	1.18	100
TOTAL	15							17							32						
MEAN		508	78	1633	1020	1.16			535	101.1	1994	1387	1.16			523	90.6	1825	1223	1.16	
MEAN AGE	14.0																				

Appendix 11. Biological data by age group for lake trout caught by experimental gillnets (114 mm mesh) from Gordon Lake, 1981.

AGE (YR)	MALES N	MALES LENGTH(MM) MEAN	MALES LENGTH(MM) SD	MALES WEIGHT(G) MEAN	MALES WEIGHT(G) SD	MALES K	MALES % MAT	FEMALES N	FEMALES LENGTH(MM) MEAN	FEMALES LENGTH(MM) SD	FEMALES WEIGHT(G) MEAN	FEMALES WEIGHT(G) SD	FEMALES K	FEMALES % MAT	COMBINED N	COMBINED LENGTH(MM) MEAN	COMBINED LENGTH(MM) SD	COMBINED WEIGHT(G) MEAN	COMBINED WEIGHT(G) SD	COMBINED K	COMBINED % MAT
10	1	480	-	1300	-	1.18	100	1	481	-	1300	-	1.17	100	2	481	0.7	1300	0	1.17	100
11	1	511	-	1500	-	1.12	100	1	515	-	1400	-	1.02	100	2	513	2.8	1450	71	1.07	100
12	3	496	17.8	1383	76	1.13	100	1	509	-	1500	-	1.14	100	4	500	15.8	1413	85	1.13	100
14	-	-	-	-	-	-	-	1	505	-	1450	-	1.13	100	1	505	-	1450	-	1.13	100
15	2	535	60.8	1500	283	0.99	100	1	539	-	1500	-	0.96	100	3	536	43.1	1500	200	0.98	100
16	1	490	-	1250	-	1.06	100	-	-	-	-	-	-	-	1	490	-	1250	-	1.06	100
17	1	494	-	1350	-	1.12	100	1	545	-	1750	-	1.08	100	2	520	36.1	1550	283	1.10	100
18	-	-	-	-	-	-	-	1	478	-	1300	-	1.19	100	1	478	-	1300	-	1.19	100
19	3	523	28.9	1517	375	1.05	100	1	499	-	1550	-	1.25	100	4	517	26.5	1525	307	1.10	100
20	-	-	-	-	-	-	-	2	586	22.6	1950	71	0.97	100	2	586	22.6	1950	71	0.97	100
22	2	538	13.4	1575	177	1.02	100	-	-	-	-	-	-	-	2	538	13.4	1575	177	1.02	100
23	-	-	-	-	-	-	-	1	547	-	1550	-	0.95	100	1	547	-	1550	-	0.95	100
24	-	-	-	-	-	-	-	1	532	-	1700	-	1.13	100	1	532	-	1700	-	1.13	100
25	1	865	-	6400	-	0.99	100	-	-	-	-	-	-	-	1	865	-	6400	-	0.99	100
32	-	-	-	-	-	-	-	1	1005	-	12750	-	1.26	100	1	1005	-	12750	-	1.26	100
38	-	-	-	-	-	-	-	1	562	-	1350	-	0.76	100	1	562	-	1350	-	0.76	100
TOTAL	15							14							29						
MEAN		536	95	1777	1294	1.07			564	131.8	2357	2999	1.07			549	113.1	2057	2258	1.07	
MEAN AGE	17.9																				

Appendix 12. Biological data by age group for lake trout caught by experimental gillnets (139 mm mesh) from Gordon Lake, 1981.

AGE (YR)	MALES N	MALES LENGTH(MM) MEAN	MALES LENGTH(MM) SD	MALES WEIGHT(G) MEAN	MALES WEIGHT(G) SD	MALES K	MALES % MAT	FEMALES N	FEMALES LENGTH(MM) MEAN	FEMALES LENGTH(MM) SD	FEMALES WEIGHT(G) MEAN	FEMALES WEIGHT(G) SD	FEMALES K	FEMALES % MAT	COMBINED N	COMBINED LENGTH(MM) MEAN	COMBINED LENGTH(MM) SD	COMBINED WEIGHT(G) MEAN	COMBINED WEIGHT(G) SD	COMBINED K	COMBINED % MAT
11	1	495	-	1350	-	1.11	100	-	-	-	-	-	-	-	1	495	-	1350	-	1.11	100
13	1	490	-	1350	-	1.15	100	-	-	-	-	-	-	-	1	490	-	1350	-	1.15	100
26	1	591	-	2350	-	1.14	100	-	-	-	-	-	-	-	1	591	-	2350	-	1.14	100
28	-	-	-	-	-	-	-	1	558	-	1950	-	1.12	100	1	558	-	1950	-	1.12	100
TOTAL	3							1							4						
MEAN		525	57	1683	577	1.13			558	-	1950	-	1.12			534	49.3	1750	490	1.13	
MEAN AGE	19.5																				

Appendix 13. Biological data by length interval for lake whitefish caught by experimental gillnets (38 mm mesh) from Gordon Lake, 1981.

LENGTH INTERVAL (MM)	MALES						FEMALES						COMBINED					
		LENGTH(MM)	WEIGHT(G)			%		LENGTH(MM)	WEIGHT(G)			%		LENGTH(MM)	WEIGHT(G)			%
	N	MEAN	MEAN	SD	K	MAT	N	MEAN	MEAN	SD	K	MAT	N	MEAN	MEAN	SD	K	MAT
80	-	-	-	-	-	-	-	-	-	-	-	-	1	84	50	-	8.44	0
120	-	-	-	-	-	-	-	-	-	-	-	-	1	120	150	-	8.68	0
170	-	-	-	-	-	-	-	-	-	-	-	-	2	173	50	0	0.98	0
180	-	-	-	-	-	-	-	-	-	-	-	-	6	185	67	20	1.07	0
190	-	-	-	-	-	-	1	194	50	-	0.68	0	2	195	63	18	0.85	0
200	-	-	-	-	-	-	-	-	-	-	-	-	4	205	100	0	1.17	0
210	-	-	-	-	-	-	-	-	-	-	-	-	7	210	100	0	1.08	0
220	-	-	-	-	-	-	-	-	-	-	-	-	2	222	100	0	0.91	0
230	-	-	-	-	-	-	2	234	138	18	1.08	0	11	234	139	17	1.08	0
240	3	242	150	0	1.06	0	2	244	100	71	0.68	0	9	242	147	59	1.04	0
250	-	-	-	-	-	-	2	254	150	0	0.92	50	4	254	156	13	0.95	25
260	-	-	-	-	-	-	2	265	175	35	0.94	0	2	265	175	35	0.94	0
290	1	290	250	-	1.03	0	-	-	-	-	-	-	1	290	250	-	1.03	0
300	1	308	300	-	1.03	0	1	300	320	-	1.19	0	2	304	310	14	1.11	0
340	-	-	-	-	-	-	-	-	-	-	-	-	1	340	200	-	0.51	0
360	-	-	-	-	-	-	1	364	500	-	1.04	0	1	364	500	-	1.04	0
380	-	-	-	-	-	-	1	388	800	-	1.37	0	1	388	800	-	1.37	0
400	1	401	900	-	1.40	0	1	409	800	-	1.17	0	2	405	850	71	1.28	0
420	2	421	1325	530	1.78	50	-	-	-	-	-	-	2	421	1325	530	1.78	50
440	-	-	-	-	-	-	2	446	1125	35	1.27	50	2	446	1125	35	1.27	50
460	1	468	1350	-	1.32	100	-	-	-	-	-	-	1	468	1350	-	1.32	100
470	1	473	1550	-	1.46	100	3	470	1500	100	1.44	100	4	471	1513	85	1.45	100
480	3	481	1433	126	1.29	100	2	485	1650	71	1.45	100	5	482	1520	152	1.35	100
490	3	494	1617	76	1.34	100	2	497	1725	106	1.41	100	5	495	1660	96	1.37	100
500	2	505	1725	106	1.34	100	1	506	2000	-	1.54	100	3	505	1817	176	1.41	100
510	1	518	1850	-	1.33	100	4	512	1738	189	1.30	100	5	513	1760	171	1.31	100
530	-	-	-	-	-	-	1	530	2050	-	1.38	100	1	530	2050	-	1.38	100
540	-	-	-	-	-	-	1	545	2000	-	1.24	100	1	545	2000	-	1.24	100
580	1	580	2350	-	1.20	100	-	-	-	-	-	-	1	580	2350	-	1.20	100
TOTAL	20						29						89					
MEAN		427	1213	673	1.30			398	1038	748	1.19			321	661	727	1.33	

Appendix 14. Biological data by length interval for lake whitefish caught by experimental gillnets (64 mm mesh) from Gordon Lake, 1981.

LENGTH INTERVAL (MM)	MALES						FEMALES						COMBINED					
		LENGTH(MM)	WEIGHT(G)			%		LENGTH(MM)	WEIGHT(G)			%		LENGTH(MM)	WEIGHT(G)			%
	N	MEAN	MEAN	SD	K	MAT	N	MEAN	MEAN	SD	K	MAT	N	MEAN	MEAN	SD	K	MAT
270	1	275	250	-	1.20	0	-	-	-	-	-	-	1	275	250	-	1.20	0
280	3	284	267	29	1.17	0	-	-	-	-	-	-	3	284	267	29	1.17	0
290	1	298	300	-	1.13	0	-	-	-	-	-	-	2	297	300	0	1.15	0
300	2	307	300	0	1.04	0	-	-	-	-	-	-	3	306	300	0	1.05	0
310	3	312	317	29	1.04	0	1	315	300	-	0.96	0	4	313	313	25	1.02	0
320	1	322	350	-	1.05	0	1	325	400	-	1.17	0	3	322	375	25	1.12	0
330	2	335	450	71	1.21	0	2	332	375	35	1.03	0	5	334	420	57	1.13	0
340	2	340	475	35	1.21	0	1	349	400	-	0.94	0	3	343	450	50	1.12	0
350	4	352	469	75	1.07	0	3	355	483	29	1.08	0	7	353	475	56	1.08	0
360	-	-	-	-	-	-	1	360	500	-	1.07	0	1	360	500	-	1.07	0
410	-	-	-	-	-	-	1	412	1150	-	1.64	100	1	412	1150	-	1.64	100
420	-	-	-	-	-	-	1	424	1600	-	2.10	100	1	424	1600	-	2.10	100
440	2	446	1150	0	1.30	100	-	-	-	-	-	-	2	446	1150	0	1.30	100
450	3	453	1117	76	1.20	100	-	-	-	-	-	-	3	453	1117	76	1.20	100
460	-	-	-	-	-	-	1	462	1400	-	1.42	100	1	462	1400	-	1.42	100
470	5	475	1560	222	1.45	100	3	472	1700	50	1.62	100	8	474	1613	185	1.52	100
480	10	485	1645	119	1.44	100	8	483	1538	79	1.36	100	18	484	1597	114	1.41	100
490	7	492	1643	79	1.38	100	6	496	1708	58	1.40	100	14	494	1671	73	1.39	93
500	15	503	1750	132	1.38	100	6	504	1683	144	1.32	100	21	503	1731	136	1.36	100
510	5	512	1910	96	1.42	100	9	514	1878	158	1.38	100	14	514	1889	136	1.39	100
520	1	526	2100	-	1.44	100	4	523	1950	196	1.37	100	5	523	1980	182	1.38	100
530	1	531	2200	-	1.47	100	2	533	2025	177	1.34	100	3	532	2083	161	1.38	100
540	2	541	1975	389	1.25	100	2	544	2038	18	1.27	100	4	543	2006	228	1.26	100
560	2	561	2425	318	1.37	100	-	-	-	-	-	-	2	561	2425	318	1.37	100
570	-	-	-	-	-	-	1	572	2450	-	1.31	100	1	572	2450	-	1.31	100
TOTAL	72						53						130					
MEAN		449	1351	647	1.31			474	1528	552	1.34			455	1395	629	1.32	

Appendix 15. Biological data by length interval for lake whitefish caught by experimental gillnets (89 mm mesh) from Gordon Lake, 1981.

LENGTH INTERVAL (MM)	MALES						FEMALES						COMBINED					
		LENGTH(MM)	WEIGHT(G)			%		LENGTH(MM)	WEIGHT(G)			%		LENGTH(MM)	WEIGHT(G)			%
	N	MEAN	MEAN	SD	K	MAT	N	MEAN	MEAN	SD	K	MAT	N	MEAN	MEAN	SD	K	MAT
290	1	295	500	-	1.95	0	-	-	-	-	-	-	1	295	500	-	1.95	0
340	1	340	500	-	1.27	0	-	-	-	-	-	-	1	340	500	-	1.27	0
360	1	365	600	-	1.23	0	1	367	600	-	1.21	0	2	366	600	0	1.22	0
380	1	380	650	-	1.18	0	-	-	-	-	-	-	1	380	650	-	1.18	0
390	1	395	850	-	1.38	0	-	-	-	-	-	-	1	395	850	-	1.38	0
400	-	-	-	-	-	-	1	405	1000	-	1.51	100	1	405	1000	-	1.51	100
410	-	-	-	-	-	-	1	418	950	-	1.30	0	1	418	950	-	1.30	0
420	1	422	900	-	1.20	0	-	-	-	-	-	-	1	422	900	-	1.20	0
430	2	432	1200	283	1.49	50	-	-	-	-	-	-	2	432	1200	283	1.49	50
440	1	442	1100	-	1.27	100	1	440	1250	-	1.47	100	2	441	1175	106	1.37	100
450	-	-	-	-	-	-	1	458	2000	-	2.08	100	1	458	2000	-	2.08	100
460	1	460	1450	-	1.49	100	2	464	1675	389	1.68	100	3	463	1600	304	1.62	100
470	8	474	1481	103	1.39	100	6	474	1492	124	1.40	100	14	474	1486	108	1.40	100
480	8	484	1531	144	1.35	100	10	484	1560	113	1.38	100	19	484	1545	121	1.36	95
490	12	495	1683	125	1.39	100	7	494	1721	152	1.43	100	19	495	1697	133	1.40	100
500	9	503	1778	100	1.39	100	8	505	1744	140	1.35	100	18	505	1758	115	1.37	94
510	7	513	1886	111	1.40	100	10	513	1850	243	1.37	100	17	513	1865	195	1.38	100
520	5	523	1940	204	1.36	100	6	524	2042	159	1.42	100	11	523	1995	180	1.39	100
530	2	532	2075	177	1.38	100	6	532	1908	322	1.27	100	8	532	1950	290	1.30	100
540	6	542	2092	92	1.31	100	4	543	2163	111	1.35	100	10	543	2120	101	1.33	100
550	4	553	2163	85	1.28	100	3	553	2017	580	1.19	100	7	553	2100	349	1.24	100
560	-	-	-	-	-	-	1	564	2350	-	1.31	100	1	564	2350	-	1.31	100
580	1	581	2700	-	1.38	100	-	-	-	-	-	-	1	581	2700	-	1.38	100
590	1	592	1800	-	0.87	100	-	-	-	-	-	-	1	592	1800	-	0.87	100
TOTAL	73						68						143					
MEAN		493	1671	418	1.37			501	1749	348	1.38			497	1707	384	1.37	

Appendix 16. Biological data by length interval for lake whitefish caught by experimental gillnets (114 mm mesh) from Gordon Lake, 1981.

LENGTH INTERVAL (MM)	MALES						FEMALES						COMBINED					
		LENGTH(MM)	WEIGHT(G)			%		LENGTH(MM)	WEIGHT(G)			%		LENGTH(MM)	WEIGHT(G)			%
	N	MEAN	MEAN	SD	K	MAT	N	MEAN	MEAN	SD	K	MAT	N	MEAN	MEAN	SD	K	MAT
410	-	-	-	-	-	-	1	415	1000	-	1.40	0	1	415	1000	-	1.40	0
430	-	-	-	-	-	-	1	436	1650	-	1.99	100	1	436	1650	-	1.99	100
440	-	-	-	-	-	-	1	440	1650	-	1.94	100	1	440	1650	-	1.94	100
460	2	467	1375	35	1.35	100	1	465	1550	-	1.54	100	3	466	1433	104	1.42	100
470	2	470	1425	247	1.37	100	6	473	1592	136	1.50	100	8	472	1550	167	1.47	100
480	3	485	1450	180	1.27	100	5	485	1570	45	1.38	100	8	485	1525	120	1.34	100
490	2	493	1725	318	1.44	50	8	494	1675	128	1.39	100	10	494	1685	156	1.40	90
500	6	503	1725	94	1.35	100	10	505	1840	171	1.43	100	16	504	1797	154	1.40	100
510	6	513	1908	163	1.41	100	8	513	1781	169	1.32	100	14	513	1836	173	1.36	100
520	5	524	1800	158	1.25	100	6	523	2133	204	1.49	100	11	523	1982	247	1.38	100
530	6	533	2033	108	1.34	100	1	535	2050	-	1.34	100	7	534	2036	99	1.34	100
540	3	543	2183	144	1.36	100	4	542	2038	243	1.28	100	7	542	2100	206	1.32	100
550	1	550	2450	-	1.47	100	-	-	-	-	-	-	1	550	2450	-	1.47	100
560	1	565	3050	-	1.69	100	-	-	-	-	-	-	1	565	3050	-	1.69	100
580	1	582	2750	-	1.39	100	-	-	-	-	-	-	1	582	2750	-	1.39	100
590	1	599	2850	-	1.33	100	-	-	-	-	-	-	1	599	2850	-	1.33	100
TOTAL	39						52						91					
MEAN		517	1899	401	1.36			499	1775	258	1.43			507	1828	331	1.40	

Appendix 17. Biological data by length interval for lake whitefish caught by experimental gillnets (139 mm mesh) from Gordon Lake, 1981.

LENGTH INTERVAL (MM)	MALES N	MALES LENGTH(MM) MEAN	MALES WEIGHT(G) MEAN	MALES WEIGHT(G) SD	MALES K	MALES % MAT	FEMALES N	FEMALES LENGTH(MM) MEAN	FEMALES WEIGHT(G) MEAN	FEMALES WEIGHT(G) SD	FEMALES K	FEMALES % MAT	COMBINED N	COMBINED LENGTH(MM) MEAN	COMBINED WEIGHT(G) MEAN	COMBINED WEIGHT(G) SD	COMBINED K	COMBINED % MAT
440	-	-	-	-	-	-	1	448	1350	-	1.50	100	1	448	1350	-	1.50	100
480	-	-	-	-	-	-	-	-	-	-	-	-	1	480	1550	-	1.40	0
490	4	492	1700	108	1.43	100	2	491	1725	35	1.46	100	6	491	1708	86	1.44	100
500	4	503	1688	75	1.33	100	3	501	1667	76	1.33	100	7	502	1679	70	1.33	100
510	2	514	1900	0	1.40	100	1	518	1700	-	1.22	100	3	515	1833	115	1.34	100
520	1	528	1800	-	1.22	100	1	520	1900	-	1.35	100	2	524	1850	71	1.29	100
530	2	537	1975	35	1.28	100	-	-	-	-	-	-	2	537	1975	35	1.28	100
540	1	543	2000	-	1.25	100	1	545	2000	-	1.24	100	2	544	2000	0	1.24	100
550	1	556	2150	-	1.25	100	1	553	2450	-	1.45	100	2	555	2300	212	1.35	100
560	1	562	2550	-	1.44	100	-	-	-	-	-	-	1	562	2550	-	1.44	100
570	1	574	2250	-	1.19	100	-	-	-	-	-	-	1	574	2250	-	1.19	100
590	1	598	2750	-	1.29	100	-	-	-	-	-	-	1	598	2750	-	1.29	100
TOTAL	18						10						29					
MEAN		524	1933	319	1.34			507	1785	291	1.37			517	1869	313	1.35	

Appendix 18. Biological data by age group for lake whitefish caught by experimental gillnets (38 mm mesh) from Gordon Lake, 1981.

AGE (YR)	MALES N	MALES LENGTH(MM) MEAN	MALES LENGTH(MM) SD	MALES WEIGHT(G) MEAN	MALES WEIGHT(G) SD	MALES K	MALES % MAT	FEMALES N	FEMALES LENGTH(MM) MEAN	FEMALES LENGTH(MM) SD	FEMALES WEIGHT(G) MEAN	FEMALES WEIGHT(G) SD	FEMALES K	FEMALES % MAT	COMBINED N	COMBINED LENGTH(MM) MEAN	COMBINED LENGTH(MM) SD	COMBINED WEIGHT(G) MEAN	COMBINED WEIGHT(G) SD	COMBINED K	COMBINED % MAT
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	179	33.9	68	23	1.69	0
3	1	244	-	150	-	1.03	0	-	-	-	-	-	-	-	9	227	44.5	114	38	1.00	0
4	2	241	1.4	150	0	1.07	0	7	239	22.9	118	47	0.84	0	27	232	27.1	136	42	1.30	0
5	-	-	-	-	-	-	-	1	265	-	200	-	1.07	0	2	248	24.7	175	35	1.15	0
6	3	377	60.7	717	362	1.23	0	2	399	14.8	800	0	1.27	0	5	386	45.1	750	260	1.25	0
7	-	-	-	-	-	-	-	4	431	46.4	1088	452	1.28	50	4	431	46.4	1088	452	1.28	50
8	3	456	32.1	1450	218	1.59	100	3	500	13.6	1667	153	1.35	100	6	478	32.4	1558	206	1.47	100
9	2	477	4.9	1500	71	1.39	100	1	470	-	1400	-	1.35	100	3	474	5.1	1467	76	1.37	100
10	2	513	7.1	1825	35	1.35	100	3	497	15.6	1683	104	1.37	100	5	503	14.7	1740	108	1.37	100
11	4	491	6.7	1600	71	1.35	100	3	527	19.7	2017	29	1.39	100	7	506	22.8	1779	229	1.37	100
12	1	502	-	1650	-	1.30	100	1	510	-	1950	-	1.47	100	2	506	5.7	1800	212	1.39	100
13	1	580	-	2350	-	1.20	100	1	510	-	1700	-	1.28	100	2	545	49.5	2025	460	1.24	100
TOTAL	19							26							83						
MEAN		434	102	1263	651	1.32			405	118.4	1082	751	1.19			324	133.6	680	738	1.34	
MEAN AGE	5.7																				

Appendix 19. Biological data by age group for lake whitefish caught by experimental gillnets (64 mm mesh) from Gordon Lake, 1981.

AGE	MALES							FEMALES							COMBINED						
	LENGTH(MM)			WEIGHT(G)			%	LENGTH(MM)			WEIGHT(G)			%	LENGTH(MM)			WEIGHT(G)			%
(YR)	N	MEAN	SD	MEAN	SD	K	MAT	N	MEAN	SD	MEAN	SD	K	MAT	N	MEAN	SD	MEAN	SD	K	MAT
4	12	311	25.4	335	82	1.11	0	-	-	-	-	-	-	-	16	311	23.4	341	77	1.12	0
5	4	328	28.9	413	131	1.14	0	1	331	-	350	-	0.97	0	5	328	25.1	400	117	1.10	0
6	2	393	75.0	825	460	1.28	50	2	320	7.1	350	71	1.06	0	4	357	60.5	588	384	1.17	25
7	4	434	57.3	1075	473	1.23	75	4	376	58.6	675	486	1.13	25	8	405	62.1	875	493	1.18	50
8	5	453	73.9	1350	573	1.33	80	8	442	61.2	1294	544	1.39	75	13	446	63.5	1315	532	1.36	77
9	5	483	9.7	1510	134	1.34	100	4	457	68.2	1375	634	1.33	75	9	472	44.5	1450	406	1.33	89
10	15	490	13.3	1657	168	1.41	100	10	494	29.2	1725	210	1.45	100	26	491	20.2	1683	181	1.42	100
11	11	508	9.8	1818	175	1.39	100	12	507	15.4	1821	212	1.40	100	23	507	12.8	1820	191	1.39	100
12	8	508	19.7	1919	210	1.46	100	8	506	12.5	1731	113	1.33	100	16	507	16.0	1825	190	1.40	100
13	3	530	38.0	1983	580	1.32	100	-	-	-	-	-	-	-	3	530	38.0	1983	580	1.32	100
14	2	530	42.4	2075	177	1.41	100	2	538	11.3	1963	88	1.26	100	4	534	25.8	2019	131	1.33	100
15	1	450	-	1050	-	1.15	100	1	542	-	2050	-	1.29	100	2	496	65.1	1550	707	1.22	100
17	-	-	-	-	-	-	-	1	572	-	2450	-	1.31	100	1	572	-	2450	-	1.31	100
TOTAL	72							53							130						
MEAN		449	83	1351	647	1.31			474	65.8	1528	552	1.34			455	79.3	1395	629	1.32	
MEAN AGE	9.2																				

Appendix 20. Biological data by age group for lake whitefish caught by experimental gillnets (89 mm mesh) from Gordon Lake, 1981.

AGE	MALES							FEMALES							COMBINED						
	LENGTH(MM)			WEIGHT(G)			%	LENGTH(MM)			WEIGHT(G)			%	LENGTH(MM)			WEIGHT(G)			%
(YR)	N	MEAN	SD	MEAN	SD	K	MAT	N	MEAN	SD	MEAN	SD	K	MAT	N	MEAN	SD	MEAN	SD	K	MAT
4	1	340	-	500	-	1.27	0	-	-	-	-	-	-	-	1	340	-	500	-	1.27	0
5	1	295	-	500	-	1.95	0	1	405	-	1000	-	1.51	100	2	350	77.8	750	354	1.73	50
6	4	406	33.4	863	206	1.27	25	1	367	-	600	-	1.21	0	5	398	33.8	810	213	1.26	20
7	3	435	57.6	1100	507	1.26	33	5	454	24.2	1270	196	1.35	80	8	447	37.1	1206	321	1.32	63
8	3	495	3.1	1617	29	1.33	100	8	495	26.2	1538	127	1.28	100	11	495	22.0	1559	114	1.30	100
9	8	487	15.6	1569	181	1.35	100	4	490	11.3	1600	108	1.36	100	13	488	13.3	1573	151	1.35	100
10	17	500	28.4	1718	177	1.38	100	9	508	27.1	1806	235	1.39	100	26	503	27.7	1748	199	1.39	100
11	13	511	35.7	1877	299	1.41	100	21	511	19.5	1855	250	1.39	100	34	511	26.4	1863	266	1.40	100
12	12	514	20.3	1883	208	1.39	100	12	513	28.0	1933	300	1.44	100	25	513	23.4	1900	252	1.41	100
13	2	485	4.9	1400	71	1.23	100	1	534	-	2200	-	1.44	100	3	501	28.8	1667	465	1.30	100
14	1	512	-	2000	-	1.49	100	3	528	11.2	1950	50	1.33	100	4	524	12.1	1963	48	1.37	100
15	5	533	42.5	1990	504	1.29	100	1	555	-	2550	-	1.49	100	6	537	39.1	2083	506	1.32	100
TOTAL	70							66							138						
MEAN		491	50	1659	421	1.37			501	34.9	1752	353	1.38			496	43.2	1703	389	1.37	
MEAN AGE	10.3																				

Appendix 21. Biological data by age group for lake whitefish caught by experimental gillnets (114 mm mesh) from Gordon Lake, 1981.

AGE (YR)	MALES N	LENGTH(MM) MEAN	SD	WEIGHT(G) MEAN	SD	K	% MAT	FEMALES N	LENGTH(MM) MEAN	SD	WEIGHT(G) MEAN	SD	K	% MAT	COMBINED N	LENGTH(MM) MEAN	SD	WEIGHT(G) MEAN	SD	K	% MAT
5	-	-	-	-	-	-	-	1	415	-	1000	-	1.40	0	1	415	-	1000	-	1.40	0
7	2	478	10.6	1600	0	1.47	100	-	-	-	-	-	-	-	2	478	10.6	1600	0	1.47	100
8	3	491	37.5	1550	397	1.29	100	2	474	5.7	1675	247	1.57	100	5	484	28.2	1600	314	1.40	100
9	3	495	17.9	1583	382	1.29	100	8	482	20.2	1631	59	1.47	100	11	486	19.7	1618	179	1.42	100
10	5	512	9.2	1750	141	1.30	100	11	506	20.4	1823	235	1.41	100	16	508	17.6	1800	208	1.37	100
11	7	515	15.0	1929	231	1.41	100	17	501	25.3	1782	256	1.42	100	24	505	23.3	1825	253	1.42	100
12	8	522	18.8	2013	240	1.42	100	2	491	1.4	1775	106	1.50	100	10	516	21.0	1965	237	1.43	100
13	4	542	61.3	2188	732	1.34	100	6	522	10.9	2017	242	1.42	100	10	530	37.7	2085	468	1.39	100
14	2	550	21.2	2575	672	1.53	100	-	-	-	-	-	-	-	2	550	21.2	2575	672	1.53	100
15	1	526	-	1600	-	1.10	100	3	521	16.4	1833	275	1.29	100	4	523	13.6	1775	253	1.24	100
16	1	546	-	2100	-	1.29	100	-	-	-	-	-	-	-	1	546	-	2100	-	1.29	100
TOTAL	36							50							86						
MEAN		516	30	1904	411	1.37			500	26.5	1778	260	1.43			507	29.1	1831	335	1.40	
MEAN AGE	10.9																				

Appendix 22. Biological data by age group for lake whitefish caught by experimental gillnets (139 mm mesh) from Gordon Lake, 1981.

AGE (YR)	MALES N	LENGTH(MM) MEAN	SD	WEIGHT(G) MEAN	SD	K	% MAT	FEMALES N	LENGTH(MM) MEAN	SD	WEIGHT(G) MEAN	SD	K	% MAT	COMBINED N	LENGTH(MM) MEAN	SD	WEIGHT(G) MEAN	SD	K	% MAT
8	1	500	-	1650	-	1.32	100	1	448	-	1350	-	1.50	100	3	476	26.2	1517	153	1.41	100
9	3	497	11.5	1800	132	1.47	100	-	-	-	-	-	-	-	3	497	11.5	1800	132	1.47	100
10	1	538	-	2000	-	1.28	100	3	497	5.2	1650	50	1.35	100	4	507	20.9	1738	180	1.33	100
11	5	513	14.1	1790	139	1.33	100	1	490	-	1750	-	1.49	100	6	509	15.6	1783	125	1.35	100
12	1	494	-	1700	-	1.41	100	3	528	15.0	1867	153	1.27	100	4	519	20.8	1825	150	1.31	100
13	4	531	29.6	1988	409	1.31	100	1	553	-	2450	-	1.45	100	5	536	27.4	2080	410	1.34	100
18	1	574	-	2250	-	1.19	100	-	-	-	-	-	-	-	1	574	-	2250	-	1.19	100
TOTAL	16							9							26						
MEAN		518	26	1869	252	1.34			507	31.6	1789	308	1.36			513	28.3	1829	271	1.35	
MEAN AGE	11.1																				

Appendix 23. Chemical analysis of surface water samples taken from Gordon Lake, 1981

	TDN $\mu g \cdot L^{-1}$	TDP $\mu g \cdot L^{-1}$	CHLOR-A $\mu g \cdot L^{-1}$	Na $mg \cdot L^{-1}$	K $mg \cdot L^{-1}$	Ca $mg \cdot L^{-1}$	Mg $mg \cdot L^{-1}$
24 June	330	12	0.1	1.84	1.12	9.17	2.89
15 July	380	15	0.1	2.00	1.26	9.09	2.24

	Cl $mg \cdot L^{-1}$	SO_4 $mg \cdot L^{-1}$	SUSP P $\mu g \cdot L^{-1}$	SUSP N $\mu g \cdot L^{-1}$	SUSP C $\mu g \cdot L^{-1}$
24 June	1.2	6.8	<1	100	430
15 July	1.3	7.0	12	13	380